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PREVENTING INFANT MORTALITY: INTERGOVERNMENTAL DIMENSIONS OF A NATIONAL PROBLEM

JOINT HEARINGS

BEFORE THE

SUBCOMMITTEE ON
INTERGOVERNMENTAL RELATIONS

OF THE

COMMITTEE ON
GOVERNMENTAL AFFAIRS

AND THE

COMMITTEE ON THE BUDGET
UNITED STATES SENATE

NINETY-NINTH CONGRESS

FIRST SESSION

ON

S. 1209

TO ESTABLISH THE NATIONAL COMMISSION TO PREVENT INFANT MORTALITY

AND

REPORT

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A REPORT
PREPARED BY THE
SENATE SUBCOMMITTEE ON INTERGOVERNMENTAL RELATIONS,
COMMITTEE ON GOVERNMENTAL AFFAIRS
UNITED STATES SENATE

LETTER OF TRANSMITTAL

U.S. SENATE,
SUBCOMMITTEE ON INTERGOVERNMENTAL RELATIONS,
COMMITTEE ON GOVERNMENTAL AFFAIRS.

Hon. WILLIAM ROTH,
Chairman, Committee on Governmental Affairs,
U.S. Senate.

DEAR MR. CHAIRMAN: The Subcommittee on Intergovernmental Relations held hearings and conducted inquiries into the problem of infant mortality. What we found during that inquiry left us thoroughly convinced that we must do more to promote better health care for pregnant women and infants in America.

During the course of Subcommittee hearings, experts on child nutrition, educators, community activists, health care professionals, and individual mothers all successfully pointed out the lack of a coordinated effort on the part of all elements who are trying to combat this problem.

In anticipation of further Congressional action on this matter, we are hereby transmitting for publication the report by the Subcommittee on the problem of infant mortality and the need to enact S. 1209, legislation to create a National Commission to Prevent Infant Mortality.

Sincerely,

LAWTON CHILES.

IV

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I. INTRODUCTION

Infant mortality refers to the number of babies who are born alive but die before their first birthdays. The rate of infant mortality has historically been used as a judge of a developed country. Here in the United States, despite the fact that we are one of the wealthiest and most advanced countries in the world, our infant mortality rate, as reported in the 1985 State of the World's Children report, was higher than 15 other countries.

The Subcommittee on Intergovernmental Relations of the Senate Governmental Affairs Committee held three hearings on different aspects of the infant mortality problem: one in Miami, FL; one in Pensacola, FL; and one at Providence Hospital in Washington, DC.

The hearings were held to examine S. 1209, legislation to create a national commission to prevent infant mortality. Also, the hearings were fact-gathering efforts to examine the scope of the infant mortality problem, elucidate which women are at most risk, and propose other ideas to reduce infant mortality.

Senator Lawton Chiles, the subcommittee's ranking minority member, voiced his concern about this issue in an opening statement at the Subcommittee's hearing at Providence Hospital on October 31, 1985. Senator Chiles said:

"This hearing today is for me, the culmination of the beginning phase of raising public awareness about the seriousness of infant mortality in this country. In two hearings held in Florida this summer, I heard from approximately 25 witnesses. Those witnesses included health care delivery specialists, elected public officials, health and medical officials, and individuals who had experienced some of the problems of trying to get proper health care during pregnancy.

"I also visited clinics and hospitals in Tampa, Tallahassee, Fort Myers, Jacksonville, and Fort Lauderdale to see what the State of Florida provides in the way of services to pregnant women and their babies. Many of those places have implemented programs which make some inroads toward progress on this issue, but there is much more to do.

"Let me take a moment to talk about S. 1209 and what I hope this legislation will accomplish. First of all, let me assure everyone that I don't see an Infant Mortality Commission that will be created by law, issue a report, and that's it. I agree with critics who say that study commissions who tell us the obvious are not worth the ink it took to create them. What S. 1209 would do is create a commission with a clear mandate for legislative and administrative acion designed to vigorously attack the problem before us. The commission would coordinate and focus the efforts of many groups who have been working in this vineyard for many years. Also, a commission created by the Congress as a focal point for action cannot be easily ignored.

"When this bill passes and becomes law, it will be our commission, Congress' commission. It's easy to ignore somebody else's baby crying in the night—it's a lot harder to ignore your own. This will be our baby, and I expect Congress to heed its cry."

Senator Dave Durenberger, chairman of the subcommittee, commented at the same hearing:

"It is certainly true that, as a nation, we've made steady improvements in reducing infant mortality. In 1982, the last year for which we have official figures, the rate was 11.5 deaths per 1,000 live births. Some new quarterly figures indicate that rate has fallen even further.

"But it's important to remember that, as always, statistics are a lot like a fig leaf: What they reveal is suggestive, but what they conceal is vital.

"First, our infant mortality rate is still higher than more than a dozen other developed nations.

"In a nation that prides itself on providing the finest medical care in the world—and spends more than $1,500 per person on health care each year—that is a national disgrace.

"It's not just the deaths of children at issue here today. It is also the thousands of infants who survive their first year, but spend their lives with serious and debilitating illnesses and handicaps, many of them also preventable with good prenatal and neonatal care. These are the kids that don't show up in the infant mortality figures, the kids suffering from what's known in medical jargon as "infant morbidity."

"For all of these reasons, we are calling for a National Commission on Infant Mortality—or infant mortality and morbidity—and for all of these reasons we are having a hearing today."

II. NEED FOR THE LEGISLATION

The subcommittee feels there is a need for a short-term Commission in order to define a national policy to reduce infant mortality. By bringing together the various perspectives on the infant mortality issue, a targeted plan to prevent and reduce infant mortality can be created and used wisely by our Nation.

At first glance, the United States seems to be making progress in reducing infant mortality. Since 1965, the U.S. infant mortality rate has fallen by almost one-half. The most recent figures by the National Center for Health Statistics show that the infant mortality rate in 1984 is 10.6 deaths per 1,000 live births. These figures look promising; however, there are alarming trends taking place that are of concern to all. First, the incidence of low birthweight babies is not dropping. In fact, there are signs that this rate is slowly increasing. Also, the gap between black and white infant mortality rates is increasing. And there is also an increase in deaths of babies that survive the first month of life, a trend that is closely associated with poverty factors. Finally, the percentage of women receiving no care or delayed prenatal care has increased for the past 3 years.

It turns out that most of the progress made in decreasing the IMR has been due to improved survival of low birthweight infants through major medical and technological advancement in neonatal intensive care. Since the main cause of a high infant mortality rate is low birthweight, we will never be able to make a real dent in our high infant mortality rate until we address the problem of babies born underweight.

Who is at risk of having a low birthweight infant? Teenagers, poor women, and nonwhite women are most likely to have a low birthweight infant. In fact, black infants are about twice as likely as white infants to die before their birthdays, and babies born to teenagers are twice as likly to die before their first birthdays as babies born to women in their twenties. A sad but true fact regarding this situation is that the women most likely to have low birthweight babies are also the one least likely to get adequate prenatal care. Other factors associated with the infant mortality rate are smoking, poor nutrition, poor post-partum care, alcohol and drug abuse, and Sudden Infant Death Syndrome [SIDS]. Some of the indirect problems associated with low birthweight infants include a higher chance of learning disabilities and more frequent problems of child abuse. While some of these factors are associated with income level, women at all income levels can cut down their chances of having a low birthweight baby by following sound prenatal advice.

The costs of a high infant mortality are felt throughout all aspects of our society. The trauma of losing a child in its early life is devastating to a family. Besides this social cost, there is a staggering medical cost to keep low birthweight infants alive. The annual cost of neonatal intensive care in the United States exceeds $1.5 billion. The average cost to "graduate" an infant from a neonatal intensive care unit is between $20,000-$100,000 per infant. It is clear that hospital care for low birthweight infants is dramatically more expensive than preventive care. A study done by Harvard School of Public Health found that treating the consequences of low birthweight after birth is three times more expensive than prevention through the Women, Infants and Children [WIC] Program.

FEDERAL EFFORTS TO COMBAT INFANT MORTALITY

Although steps are now being taken to deal with the problem of infant mortality, we have a long way to go. Many of the services presently offered at the Federal level dealing with infant mortality are nonsystematic and inadequate.

Senator Chiles and Durenberger challenged Dr. James Mason, Acting Assistant Secretary for Health, U.S. Department of Health and Human Services, in the D.C. hearing, to outline the actions HHS had taken so far to combat infant mortality in an organized and effective way.

Dr. Mason stated that HHS has different programs designed to address the inflant mortality problem. Among those are a Black and Minority Health Task Force which included a subcommittee on infant mortality. The Public Health Service [PHS] low birthweight prevention work group has responsibility for providing scientific analysis and coordinating infant mortality and low birthweight prevention activities. The PHS also administers the Maternal and Child Health Block Grant, Community Health Centers, migrant health centers, and the Indian Health Service. PHS has sponsored the Health Mothers, Health Babies Coalition at the national level.

Dr. MASON. Finally, the Public Health Service is assembling teams of health professionals, referred to as Infant Mortality Review Teams, to provide, upon request, expert assistance to states in reviewing infant mortality and morbidity data.

Senator CHILES. How many of those teams have we got, Doctor?

Dr. MASON. I have to ask Doctor Hutchins.

Dr. HUTCHINS. There are about three visis made.

Senator CHILES. Three visits? How many teams are there?

Dr. HUTCHINS. We put the team together for each state that requests a visit, so the teams are made up of people from the Public Health Service as well as consultants from outside the government, and the three that we have done so far have not had the same composition.

Dr. MASON. We can provide that all 50 States, if those requests come in.

Senator DURENBERGER. Simultaneously?

Dr. MASON. Not simultaneously.

Senator DURENBERGER. That is probably his question.

Senator CHILES. Three in what period of time?

Dr. HUTCHINS. Since midsummer of this year.

Senator Chiles continued to press HHS about actions they have been taking to reduce infant mortality at the local level.

Senator CHILES. You say in your statement, "We need to be about the task of acting on what we know." Doctor, I don't think we are about that task. I don't think anybody is in charge or anybody is about the task. Tell me, is there a coordinated plan now to get this information out, to bring together the State and local governments, to convince those people that this is cost-effective as well as humane?

Dr. MASON. There is within the health care, within the public health system. . . . What I am saying is we are delivering it out there. We cannot act as comprehensively as Senator Durenberger has said, because we are only one department of the Federal Government, and I agree with that.

Later, Senator Durenberger addressed Doctor Mason about his comments that the Commission was not really necessary.

Senator DURENBERGER. Why do you personnally feel that we shouldn't do something more visible, more rallying in a scope to focus the people of this country on the fact that they have to devote some resources in some fashion, to helping us solve this problem, both of mortality and morbidity?

Dr. MASON. I agree totally that we need to do something, but often a national commission is an easy solution. Everyone sits back and says, "Now we have created a national commission, and we don't need to worry about it down in community x, y, or z.

Senator DURENBERGER. You wouldn't do that. You wouldn't lay back, would you? Would you go to sleep for 12 months while this commission operated?

WHAT THOSE WHO RUN THE PROGRAMS SAY

The subcommittee heard from numerous people involved with preventing infant mortality at the State and local levels. Overall, they felt that programs with which they were familiar were working, but were too limited in size and amount of caseloads because of limited Federal and State funding.

Mr. Bob Roth, a senior vice president of Sacred Heart Hospital in Pensacola, stated in testimony:

I guess our biggest concern from the standpoint of Sacred Heart Hospital is the availability of funding for such programs (improved pregnancy outcome projects) in the future. The State is not increasing funding and looking for methodologies to decrease funding, similar to what the Federal Government is, and the hospitals, in essence, are bearing a significant brunt. The related losses to this program for Sacred Heart Hospital is some $1 million last year. What our concern is is that this is a proven program, which is of definite medical benefit, and on a long term basis is a cost reduction program.

Ms. Jessie Trice, who is director of the economic opportunity Family Health Center in the Liberty City section of Miami, FL, told the subcommittee that her health center and reduced the infant mortality rate for her patients to just under 11 deaths per 1,000 births. The infant mortality rate for the general population of the Liberty City area is 24 per 1,000. Also, of the 1,100 deliveries at her center last year, only two infant deaths occurred.

Senator Chiles. Well, you have had very dramatic results in your program, and that's such a plus. I hate to raise it, but the other side of that is, you are only serving a small portion of the people in Liberty City where the need is. How do we expand that program, and is it information we are getting out, is it lack of funds?

Ms. Trice. We need more resources, Senator. There are many good programs within Dade County, not just ours. But as you heard Dr. Mahan say, within Dade County, the need for prenatal services and all other health services is just so dramatic, we just don't have facilities nor the persons to address the problem.

Senator Chiles. We can't afford not to put these resources in, can we? And you have had such dramatic results with just two repeat pregnancies out of 300 teenagers, goodness knows, that's going to be the most cost-effective programs in the world.

Ms. Trice. I certainly believe that.

Problems Seen by Those Who Use Services in the Community

The subcommittee heard from many public witnesses in its hearings who highlighted in personal terms the problems they have had regarding adequate health care for themselves and their babies.

Ms. Elizabeth Baker, who had a healthy baby after having two previous miscarriages, said she had only one visit for prenatal care during each of her two miscarriages:

Senator Chiles. Why were you not able to get care in the first and second cases? Did you not know about it?

Ms. Baker. At the time, I was 17, and I didn't have—My financial situation wasn't that I could afford to go to a doctor to get help. Then when I did apply for medicaid, I had to wait for my medicaid card to come, and by the time I got my medicaid care I had delivered the baby.

Senator Chiles. So the red tape of trying to get that help when you didn't have the financial wherewithal got you into that situation?

Ms. Baker. Yes.

Ms. Aida White delivered a healthy baby after searching for many months to find a hospital who would take her as a client:

Ms. White. After I got pregnant, my husband, he was in the service, and he got out of the service because he had a GI bill and he want to go to college. Then we was going to a doctor—I was 7 months pregnant and we was going to a doctor, then we find out there is no way we can afford it, because they were asking for at least between $3,300 and $3,400.

Senator Chiles. That was a deposit before you could go to the hospital?

Ms. White. Oh, yes, sir. There is no way they will agree to have the payment, and we find out there is no way we can do it. Then we find doctor who said, "OK, I'll take care of you, but you have to pay my fee before the baby born, then you can make the hospital payment," which was $2,200. I have 90 percent chance of having caesarean, and if I have caesarean I have to pay double. . . .

III. SUMMARY OF S. 1209

S. 1209 creates a National Commission to Prevent Infant Mortality.

The independent Commission will be composed of 15 people who are experts in the field of infant mortality from the policy aspect to health care needs. States and localities will be represented as well.

The Commission will be appointed as follows: two members of the Senate to be selected by the majority and minority leaders, two members of the House selected by the Speaker of the House and the minority leader, one Governor selected jointly by the majority leader of the Senate and Speaker of the House, two members representing State and local government to be appointed by the President, the Secretary of Health and Human Services, the Comptroller of GAO, and six at-large members with demonstrated expertise in maternal and child health selected jointly by the Majority leader of the Senate and Speaker of the House.

The subcommittee feels strongly that nurse-midwives should be represented on the Commission. Also, the subcommittee recommends that the Governor appointed be one who has been very active in one of the existing groups dealing with infant mortality in our Nation.

The Commission's duties include:

1. Identifying and examining Federal, State, local, and private resources which impact infant mortality.
2. Identifying current financial, intergovernmental, and within the Federal Government, interagency barriers to the health care and services needed to prevent infant mortality. The subcommittee feels the Commission should focus especially on coordination between HHS and the Department of Agriculture concerning provision of needed services to pregnant women and infants. The Commission should also examine what progress has been made to date within the Department of Health and Human Services in programs that HHS has defined to help reduce infant mortality.
3. Reviewing other reports done in infant mortality and carrying forward recommendations in those reports as appropriate.
4. Recommending a national policy designed to change and improve the Nation's current approach to preventing infant mortality. The subcommittee feels it is vital that this policy involve private groups as well as Government entities.
5. Reporting to Congress and the President what specific changes are needed within Federal laws and programs to achieve an effective Federal role in preventing infant mortality.

IV. ENDORSEMENTS OF S. 1209

American College of Obstetrics and Gynecology.
National Perinatal Association.
March of Dimes, Inc.
Southern Governor's Association.
Southern Regional Task Force on Infant Mortality.
American Association of University Women.
National Association of Public Health Policy.
Nurses Association of the American College of Obstetrics and Gynecology.

Florida Healthy Mothers, Healthy Babies Coalition.
South Florida Perinatal Network.
ChildNet of Minnesota.
Minnesota Coalition on Health Care Costs.
Minnesota Healthy Mothers, Healthy Babies Coalition.
Minnesota Public Health Association.
Children's Defense Fund-Minnesota Project.
Minnesota Catholic Conference.
Project LID.
Minnesota Perinatal Organization.
Minnesota Nurses Association.
Urban Coalition of Minneapolis.

V. WHERE DO WE GO FROM HERE?

Among the three or four million cradles now rocking in the land are some which this Nation would preserve for ages as sacred things, if we could know which ones they are.

Mark Twain reflected back in 1879 on a thought that still rings true to this day. The truth of the matter is that we never know which one of the millions of babies born in our world every day will end up as a future President, statesman, religious leader, innovative engineer, pioneering doctor or precedent-setting judge. And as a nation, we value every life as special and important, no matter where the life comes from. Because of our own moral code, we have the obligation and are justified in trying to make sure every child born into our nation has a healthy start in life. We have seen from the evidence presented in this report that there are many babies who never even get a chance to be born healthy, whether out of ignorance on the part of the mother, lack of money for care before and after pregnancy, or other reasons totally separate from the physical being of the newly born child. We in Congress have a responsibility to act on the facts we know about what makes a baby born healthy, and to provide for a national direction to follow to make sure our babies are given every possible chance to become one of the "sacred" ones to which Twain referred. Let's act quickly and start moving toward healthier lives for our country's babies. They are too precious to ignore.

APPENDIX

JEANNE E. GRIFFITH
JOSEPH A. CISLOWSKI

INFANT MORTALITY: ARE WE MAKING PROGRESS?

After a long period of declining infant mortality rates in the United States, Federal health officials have recently expressed concern that the pace may be slowing.

The U.S. infant mortality rate dropped from 24.7 infant deaths (deaths of babies between birth and 1 year of age) per 1,000 live births in 1965 to a rate of 11.2 in 1983, a decline of nearly 55 percent. The average annual decrease in this period was 4.4 percent. Since 1981, however, the pace of the decline has progressively slowed to a level of around 2.5 to 3.0 percent per year.

This slowing decline has caused concern for several reasons. Infant mortality rates are one of the most commonly used indicators of a population's health status; they are closely associated with life expectancy levels. The U.S. Surgeon General has set a goal of reducing the infant mortality rate to 9.0 by 1990. Meeting this goal will require an average annual decrease of 3.1 percent from 1983 to 1990. Finally, despite the declining trend, the U.S. continues to have high levels of infant mortality relative to other industrialized nations.

This concern has been expressed in several major studies of infant mortality and low birth weight. The Southern Regional Task Force on Infant Mortality, formed by the Southern Governors' Association, recently released a study which shows the South has the highest infant mortality rates in the U.S. and recommends steps to improve Federal and State services. The National Academy of Science's Institute of Medicine published a report which details the problems of low birth weight and recommends approaches to its prevention.

Leading Factor

Low birth weight is the leading factor associated with infant mortality in the United States. Infants of low birth weight, defined as weighing less than 2500 grams (5 pounds, 8 ounces), are nearly 40 times more likely than infants of normal birth weight to die during the first four weeks after birth, known as the neonatal period. Although less than 7 percent of all births are of low birth weight, two-thirds of all deaths in the first four weeks occur among low birth weight infants.

Postneonatal deaths (between 28 days and one year old) are also linked to birth weight. Low birth weight infants are five times more likely than infants of normal birth weight to die during the postneonatal period. They account for 20 percent of postneonatal deaths.

Low birth weight is an indicator of inadequate fetal growth, resulting from premature birth, poor weight gain for a given duration of gestation, or both. Many factors typically associated with higher risk of infant mortality—such as prenatal care, smoking, alcohol use, and age and marital status of the mother—actually have their primary effect on birth weight. By increasing the likelihood that a woman will have a low birth weight infant, these factors increase the mortality risk for that infant. In addition, low birth weight infants tend to have health and developmental problems later in childhood, both as a result of the survival of less healthy babies and as a result of the side effects of certain neonatal intensive care procedures.

Chart 1 shows the sharply higher infant mortality rates among low and very low birth weight infants. Very low birth weight is defined as 1500 grams (3 pounds, 3 ounces) or less. Within each weight category, the infant mortality rates of whites and all other races are similar. Mortality rates among infants weighing less than 1,000 grams are greater than 700 per 1,000 live births. For infants 1000 to 1499 grams, the rate is about 250. Among normal weight infants, the rate is about 6 per 1,000 live births.

Chart 2, however, shows the percentage of infants born in each of the low birth weight categories. Black infants are more than twice as likely as white infants to be of low or very low birth weight. For example, 10.1 percent of black infants weigh 1500 to 2499 grams, compared to 4.8 percent of white infants. Also, 2.4 percent of black infants weigh less than 1500 grams, compared to 0.9 percent of white infants. This difference between blacks and whites in the distribution of birth weights is the critical factor in the different infant mortality rates of the two groups. Black infant mortality rates are about twice as high as white rates.

Compared to other nations, the U.S. has a very high proportion of infants both of low birth weight and very low birth weight. This factor alone does a great deal to explain the high infant mortality rate in this country relative to other nations of comparable economic and medical development. The U.S. ranks below such nations as Sweden, Japan, Denmark, Norway, France, Spain, Canada, East Germany, and the United Kingdom.

Past Progress

In the first half of this century, the U.S. made relatively greater progress in reducing deaths to postneonatal infants. Improvements in public health and safety reduced deaths to these older infants, which were largely due to environmental causes such as infectious disease and poor nutrition. Since the mid-1960s, the U.S. has been particularly successful in reducing deaths to neonatal infants.

As a result of these trends, the distribution of neonatal and postneonatal deaths has changed dramatically. At the turn of the century, two-thirds of all infant deaths were postneonatal. In the early 1970s, after decades of strong improvement in postneonatal mortality, only about one-fourth of all infant deaths were postneonatal. In 1983, as a result of the relatively greater successes made in neonatal mortality in the previous decade, the share of all infant deaths that were postneonatal had increased to one-third.

Approaching Limits of Medical Technology

The recent decline in infant mortality, particularly neonatal mortality, is due primarily to the improved survival of low birth weight infants. While there has been some progress in the reduction of low birth weight, not as much progress has been made in reducing the incidence of small babies as has been made in treating them intensively after their birth. Neonatal intensive care programs have been given much of the credit for helping low birth weight infants to survive.

However, many doctors now believe we are approaching the limits of the improved technology which has permitted them to save low birth weight babies. Accelerating or even sustaining the pace of the decline in infant mortality may require new approaches, including an emphasis on the prevention of low birth weight.

Risk Factors

In many cases, mothers who are more likely to bear a child with a greater risk of death can be identified early in pregnancy to allow appropriate risk-reducing prenatal and neonatal measures to be taken. Both a woman's behavior and her physical and social characteristics greatly influence her infant's chance of survival.

The following factors have been shown to be important:

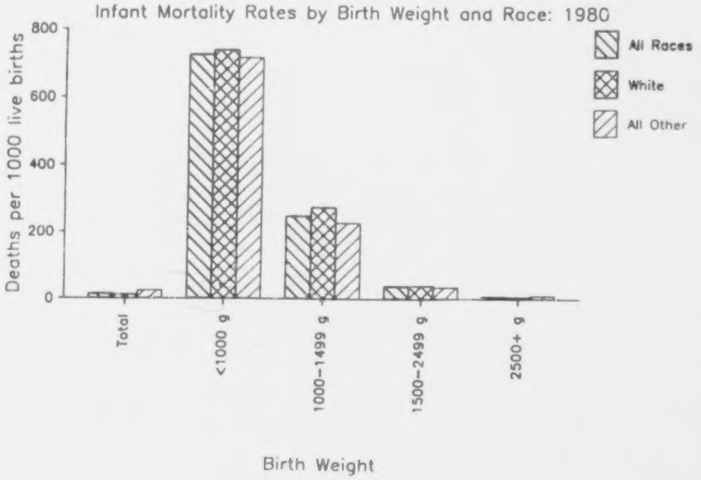
Absent or inadequate prenatal care can lead to higher rates of infant mortality, particularly among high-risk women. Adequate prenatal care is understood to encourage behavioral changes that improve the mother's health and nutrition. It may also uncover medical conditions that with appropriate treatment may not be as threatening to the infant's health.

Not all women receive prenatal care to the same extent. In the early 1980s, nearly 40 percent of black women did not see a doctor for prenatal care in the first trimester of pregnancy, compared to less than 20 percent of white women. There is also some evidence that prenatal care has declined recently in areas with high unemployment or large minority populations. Different researchers have estimated that every dollar spent on prenatal care could save from $2 to $11 in long term costs of health care and institutionalization.

Mothers who smoke during pregnancy are twice as likely to give birth to a low birth weight infant than are nonsmokers. According to the U.S. Surgeon General, smoking may contribute to between 20 and 40 percent of the cases of low birth weight infants. Maternal smoking during pregnancy can also lead to spontaneous abortions, and fetal and neonatal deaths. An infant's risk of sudden infant death syndrome is increased by

CHART 1

Infant Mortality Rates by Birth Weight and Race: 1980



maternal smoking during pregnancy. Pregnant smokers may also adversely affect their baby's long-term growth, intellectual development, and behavioral characteristics. Evidence shows that if mothers stop smoking during pregnancy, their infants on the average will be heavier and otherwise healthier than those of mothers who continue smoking.

Alcohol and drug use are other behaviors which increase the risk of infant mortality. Excessive alcohol use during pregnancy contributes to fetal alcohol syndrome, which can cause fetal death, premature delivery, low birth weight, and birth defects associated with mental retardation. The effects of other drugs are not as well documented; however, some researchers believe that drugs such as marijuana, heroin, methadone, and amphetamines increase the likelihood of low birth weight.

Births out of wedlock have infant mortality rates nearly as twice as high as those in wedlock. This problem has been exacerbated in recent years by the trend of a constantly increasing proportion of births to unmarried mothers. The proportion of all births that were out of wedlock nearly quadrupled between 1960 and 1983, even though the birth rates to both married and unmarried women declined in the same period. In 1983, more than 20 percent of all births were to unmarried mothers. This factor's importance stems, in part, from the higher incidence of unplanned pregnancies to unmarried mothers, their reduced likelihood of receiving prenatal care, and the lower levels of medical care provided to their infants.

Teenage mothers and mothers 35 or older are at greater risk of having their infants die. In the neonatal period, infant mortality rates of teenage mothers are more than 60 percent higher than to mothers over age 20. In the postneonatal period, the rates are about twice as high as those of other mothers. Infants born to teenage mothers are two to three times as likely to be of low birth weight as infants born to mothers in their twenties or thirties. This factor is related to the preceding one in that many births to teenage mothers are out of wedlock. Therefore, many of the same problems that lead to higher infant mortality among unmarried women also affect teenage mothers. In addition, there are biological factors that increase the incidence of low birth weight babies to mothers of these high-risk age groups.

Black infants are more than twice as likely to die as white infants. This risk factor, however, is largely a result of higher birth rates to black teenagers and black unmarried women, lower educational levels, later prenatal care, and other social and economic differences between black and white mothers. As shown in Chart 2, black infants are more than twice as likely to be of low birth weight than white infants.

Other factors associated with higher infant mortality include mothers who live in nonmetropolitan areas; have lower levels of education or income; have had previous infant deaths, stillbirths, or low birth weight infants; or have had closely-spaced births or many previous births. Infants who are premature, in multiple births, or with cogenital anomolies also tend to have higher infant mortality rates. In addition, male infants have higher infant mortality rates than female infants.

Public Programs and Social Trends

Public programs directed toward low income mothers and their children have to varying degrees reduced low birth weight and infant mortality. Medicaid, the Federal-State health insurance program for the poor, has been shown as effective in the reduction of low birth weight and infant mortality. Other programs which may have also had an impact include maternal and child health, WIC (supplemental food program for women, infants, and children), and family planning programs.

Social changes have also helped reduce the share of births to high risk women. They include an increase in women's educational levels, a decrease in the proportion of births to teenagers and women 35 and over, and a decline in family size.

In addition, the increased use of family planning and abortion have sharply reduced total births and the share of births that are not intentionally planned. This has reduced the share of births to high-risk categories of women.

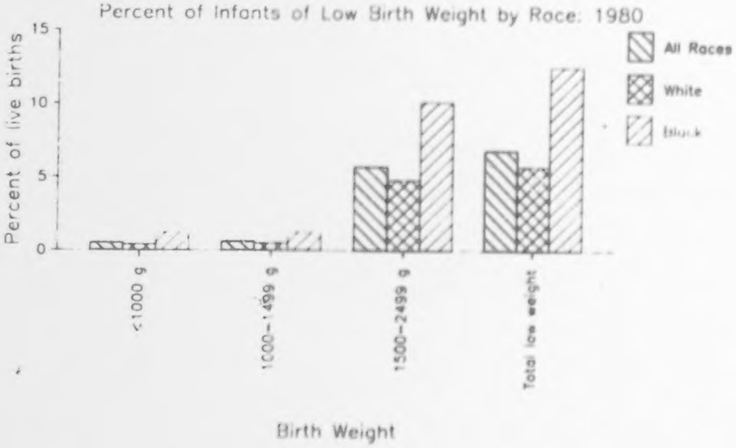
Legislative Approaches

Congressional initiatives aimed at affecting infant mortality in the 99th Congress have included proposals to expand Medicaid services related to pregnancy (S.1730 and H.R. 3128), to target nutrition programs to geographical areas with high infant mortality (H.R. 1856), and to establish a national commission to recommend measures to prevent infant mortality (S. 1209, H.R. 2344, H.R. 3349, and H.R. 3353).

Jeanne E. Griffith is a specialist in social legislation and Joseph A. Cislowski is an analyst in social legislation, both Education and Public Welfare Division.

CHART 2

Percent of Infants of Low Birth Weight by Roce: 1980



[From the Fort Lauderdale News, Apr. 19, 1986]

ERASE INFANT MORTALITY SHAME

The Infant Mortality Prevention Act, legislation introduced in Congress by Sen. Lawton Chiles of Florida, is designed to erase an inexcusable blot on U.S. health care standards.

Despite all its resources, this country's infant death rate is higher than in some much poorer countries.

When it comes to keeping babies alive through the age of 1 year, the U.S. is only 17th best in the world. The record is particularly bad in the South, including Florida.

Chiles' proposal would improve that record by allowing states to extend Medicaid's prenatal care for impoverished pregnant women without obligating them to fund other types of care for families with similar incomes.

Unlike Sen. Edward Kennedy, D-Mass., and Rep. Claude Pepper, D-Florida, who are pushing comprehensive health care bills, Chiles has made infant mortality his first priority in a tight-money budget.

His bill would provide $100 million for the government's share of expanded Medicaid prenatal protection. States participating in the program would have to match whatever federal money they receive.

While Florida reduced its infant mortality rate since it began the Improved Pregnancy Outcome Project in 1982, much remains to be done.

The prenatal aid available in many states applies only to the poorest of families. Currently, Florida provides Medicaid coverage for expectant mothers whose family income does not exceed 34 percent of the figure set as the federal poverty line. That is disgraceful.

Chiles' proposal would extend eligibility to those reaching up to 65 percent of the poverty level in fiscal 1987, 80 percent in 1988 and 100 percent in 1989.

As has been documented again and again, lack of early care for pregnant women leads to low birth weight, birth defects and hospital bills far more expensive than whatever might be spent on prenatal programs.

Whatever the cost, federal and state governments should act to eliminate a national shame.

Where infant mortality is concerned, there is no glory in whispering, "We're No. 17."

[From the Chronicle, May 30, 1985]

CHILES PROPOSES COMMISSION TO ATTACK INFANT MORTALITY

With almost 11 babies out of every 1,000 born in the United States in 1983 dying before their first birthday, Sen. Lawton Chiles, D-Fla., has introduced legislation calling for a national commission to map an attack on infant mortality.

In making the proposal Chiles expressed concern about Florida's 1982 infant mortality rate of 12.8, representing a total of 1,857 who did not survive their first year.

"In fact, 10 of the 11 states with the highest infant mortality rates are in the South," he noted.

The U.S. rate is seventeenth in the world, ranking worse than Japan, Australia, Hong Kong and countries in Western Europe.

The primary cause of infant mortality is low birthweight due to poor prenatal care. Underweight babies are most likely to be born to teenagers, non-whites and poor women. Other factors associated with low birthweight include smoking, poor nutrition, alcohol abuse and drug use.

Sen. Chiles is proposing a National Commission to Prevent Infant Mortality made up of 15 members, including two senators, two House members, a state governor, a state legislator, a local government representative, the Secretary of Health and Human Services, the U.S. Comptroller Gerneral and six from the health care community at large.

[From the Palm Beach Post, May 26, 1985]

PROPER PRENATAL CARE

The number of infants who die in this country before their first birthday is sadly ironic in a nation as wealthy as the United States.

Sen. Lawton Chiles (D-Fla.), in proposing a commission to come up with some answers, points out that the U.S. infant mortality rate in 1982 was higher than 16 other nations including Japan, Australia and much a Western Europe.

This is a disgraceful drama in which poverty plays a big role. Lack of money leads to poor prenatal care and low infant birth weight.

Not surprisingly, the South—with a heavy concentration of poor families and migrant workers—leads this unhappy role call. According to Chiles, 10 of the 11 states with the highest infant death rates are in the South.

Florida, with a death rate of 12.8 babies per 1,000 live births in 1982, was tied with Virginia at ninth place.

The gowing awareness of the problem may help to expedite answers. A report earlier this year by the Southern Regional Task Force of Infant Mortality brought these shocking figures home to Southern governors.

Florida is not ignoring the problem, state health officials say. David Pingree, secretary of the state Department of Health and Rehabilitative Services, says Florida has set a goal of cutting the number of low infant birth weights in half by 1989 and expects to spend $14 million annually to do it.

The money will fund prenatal clincs, but Pingree conceded that more needs to be done to reach and educate young indigent mothers.

Producing a healthy baby is a cost-effective investment. Statistics show that it is far less costly to provide sufficient prebirth care than to provide follow-up intensive and long-term care for sickly infants.

The problem is reflected in Palm Beach County's infant mortality rate. According to the Florida Office of Vital Statistics, the county's infant death rate for blacks and other minorities is 23.3 per thousand—about three times the rate of 8.2 per thousand for whites.

Unfortunately, these figures fit all too well into a pattern of national poverty among children that was reflected in a study released recently by the Congressional Budget Office and the Congressional Research Service for the House subcommittee on public assistance and unemployment compensation.

That study showed that 22 children per 100 were living at the poverty level in this country, the highest poverty rate in 20 years. That translates to nearly 14 million children nationwide.

Legislation has been introduced to support state efforts to reduce teenage pregnancy and to lessen the tax burden on single-parent families.

Efforts such as this, known as the Family Economic Security Act, and the commission proposed by Chiles, deserve support. No child should die for lack of food, or because its mother lacked proper prenatal care.

[From the Miami Herald, Sept. 12, 1985]

CHILES CALLS INFANT DEATHS U.S. SHAME

(By Dave von Drehle)

Politicians, health officials and four frightened young mothers gathered at the Dade County Courthouse Wednesday to give U.S. Sen. Lawton Chiles, D-Fla., a message in the terms of our times: healthy babies are more cost effective than sick ones.

Chiles made a special trip from Washington to hear 13 witnesses tell him what should be done about the infant mortality rate in America.

Witnesses, including Govs. Richard Riley of South Carolina and Bob Graham of Florida, agreed that the more adolescent mothers, undernourished mothers, smoking, drinking or drug-abusing mothers a nation has, the higher its infant-mortality rate.

Sixteen nations have a lower rate than the United States, including most of Western Europe. Chiles is proposing a bill to the Senate establishing a National Commission to Prevent Infant Mortality. Calling the infant-mortality rate a "national shame," Chiles said the commission would be set up for a year to recommend steps the federal government could take to coordinate prenatal care efforts around the country.

One of those efforts has been under way in Liberty City for three years. There Jessie Trice of the Family Health Center has been counseling pregnant women on nutrition, prenatal health care and the need for family planning.

Though she has been operating on a shoestring, there have been impressive results. For example, only two of the 1,100 women counseled at the center have lost their babies, compared with the infant-mortality rate of 24 per 1,000 births for the rest of Liberty City estimated for 1984.

A lower mortality rate also means a healthier baby population in general, witnesses said. That means vast potential savings in health care costs down the road.

"It's just cost effective to have healthy babies," said Lynda Robb, wife of Gov. Charles Robb of Virginia.

There were testimonials of a more personal nature, as well. Debbie St. Rose went through eight failed pregnancies before her Martina was born; she credited the careful attention of the Broward Improved Pregnancy Outcome program for Martina's presence at the hearing.

"I went to private doctors, very expensive ones," St. Rose said, "but they didn't do what they"—she gestured toward Margaret Campbell of the Broward program—"have done. I fit wasn't for them, I don't think Martina would be sitting on my lap now."

MORTALITY RATES

The following list shows latest infant mortality rates. Because infant mortality is defined as the number of infants per 1,000 who die in their first year, 1984 figures are not available.

	1983	1982
Dade	11.0	12.7
Broward	11.6	13.6
P. Beach	12.4	13.3
United States	10.9	11.5

[From the Palm Beach Times, Nov. 7, 1985]

SAVING INFANTS' LIVES

The infant mortality rate in the United States has dropped to an all-time low of 10.6 deaths per 1,000 live births. That is an encouraging sign but infant mortality still remains too high, especially for children born to the poor.

The reasons are no secret—mainly a lack of prenatal care and education. The question is what to do about it.

Sen. Lawton Chiles wants a national commission created to combat the problem. He believes the federal government should have a major role in providing money and guidance to get the rate still lower.

As a last resort, that may be necessary. But first, states and communities should be given a chance to solve the problem themselves. The four-county area of Florida's western Panhandle has provided proof that that is possible, providing a prenatal education program that has lowered infant mortality rates.

If the U.S. medical community has a shortcoming, it is in preventive medicine. But it is a shortcoming that the medical community should solve itself, with pressure and cooperation from patient and local communities. If the federal government tries to do it, it will be less successful and much more expensive than if the private sector does it. Additional social programs, each with their own bureaucracies, are the last thing taxpayers need.

Infant mortality rates: Selected countries from the 1985 state of the world's children report

[Rates are deaths under 1 year of age per 1,000 live births]

Country	*Rate*
Sweden	7
Japan	7
Finland	7
Switzerland	8
Norway	8
Nertherlands	8
Denmark	8

Country	*Rate*
France	9
Canada	9
Spain	10
Australia	10
Federal Republic of Germany	11
Ireland	11
Singapore	11
United Kingdom	11
United States	11
New Zealand	12
Hong Kong	12
German Democratic Republic	12
Belgium	12
Italy	13
Austria	13
Greece	14
Israel	15
Czechoslovakia	16
Bulgaria	18
Poland	20
Hungary	20
Cuba	21
U.S.S.R	25
China	39
Mexico	50

INFANT DEATHS BY RACE, SELECTED YEARS, 1959–84

	Total	White	Black
Year:			
1959	112,008	83,493	[1]28,515
1963	103,390	73,727	24,824
1967	79,028	57,533	20,372
1968	76,263	55,902	19,219
1969	75,073	55,108	18,882
1970	74,667	54,876	18,687
1972	60,182	43,460	15,738
1973	55,581	40,239	14,411
1975	50,525	36,173	13,409
1977	46,975	33,199	12,863
1978	45,945	32,212	12,747
1979	45,665	32,079	12,586
1980	45,526	31,880	12,603
1981	43,305	30,478	11,757
1982	42,401	29,659	11,642
1983	40,267	28,301	11,242
1984 [2]	39,200	27,080	11,100

[1] Includes all other races, not just black.

[2] Provisional data.

Source: 1959–80 National Center for Health Statistics, Vital Statistics Of the United States, 1959–80, vol. II. Mortality, pt. A. Public Health Service. Washington. U.S. Government Printing Office 1961–85.

1981–83: National Center for Health Statistics. Monthly Vital Statistics Report, Advance Report of Final Mortality Statistics, 1981–83. Washington. U.S. Government Printing Office 1983–85.

1984: National Center for Health Statistics. Monthly Vital Statistics Report. Annual Summary of Births, Marriages, Divorces, and Deaths: United States, 1984. Washington. U.S. Government Printing Office 1985.

[From the Tampa Tribune, Nov. 19, 1985]

PREVENTION KEY TO INFANT MORTALITY RATE

(By Becky Richards)

For the price of medical care for five high-risk premature babies, 149 women could receive prenatal care, says the chairman of a Southern Governors' Association Region Task Force on Infant Mortality.

"That says that prevention as a health policy makes real good sense in a hummane way and also an economic way," Richard Riley, South Carolina's governor and chairman of the task force, told reporters during a press conference by telephone Monday.

Riley heads the 44-member group formed in 1984 to consider measures that state legislatures and Congress could take "to reduce the statistics on infant mortality," Riley said.

"In one year, 42,401 infants in the U.S. died. That's more than (deaths) from breast cancer, leukemia, diabetes and it's almost as large as the number of people killed on the highways," he said.

Ten of the 11 states that rank highest in infant mortality rates are in the south, Riley said. Florida has the ninth highest rate.

The final report, to be released this morning at a task force meeting in Nashville, includes recommendations that:

Adolescent health care clinics be established.

A statewide coordinating council on maternal and infant health and clearinghouse on maternal and infant health be set up.

The Medicaid law be changed to allow states to provide health care to more pregnant women and newborn infants. Changes in Aid to Dependent Children formulas are proposed as well.

A regional system of perinatal care be provided so that appropriate care for all pregnant women and newborns is made available.

Recommendations will be presented to legislatures in the 17 states of the Southern Governors' Association, Riley said. Lawmakers in each will decide how best to implement the suggestions.

Florida Sen. Lawton Chiles, D-Lakeland, earlier this month blasted the Reagan administration for opposing his plan to create a commission to construct a national policy on how to reduce infant mortality.

"I'm ashamed of our country," Chiles said during a Senate hearing in Washington. "I'm ashamed that a country that has the resources . . . has a record so abysmal in this area. And I'm impatient to see that we do something about it."

During the press conference, Riley called Chiles "a strong and clear voice about these issues" and said he supports the idea of a national commission.

"As a nation will all its capacity in terms of medical research and wealth, we rank 12th among developed nations in infant mortality," Riley said. "That is probably the best statistic that defines general health care effectiveness in our nation.

"Obviously, something needs to be done."

[From Florida Today, May 3, 1986]

ENACT A PRENATAL PROGRAM TO REDUCE INFANT DEATHS

"Can you find in human life any greater suffering than to see your children dead?"—*An ancient Greek question*

Stark words. But consider that today in the richest and most advanced nation on earth, at least 10 births out of every 1,000 has parents asking that same painful question: Is there any greater suffering?

The main cause of infant mortality is low birthweight (under 5½ pounds). The South has nine of 11 states with the highest infant mortality rate in the nation. Florida has the 10th worst IMR in the nation, with 1,816 babies dying before their first birthdays.

The U.S. still ranks below many developed countries in IMR, including Japan, Australia, Spain and most of Western Europe, and its 16th ranking is on a par with Singapore.

While there may be many causes for the high infant death rate, certainly the evidence suggests that a primary cause is the lack of prenatal care, which results in low-birthweight infants. American infants of low birth weight are 40 times more likely to die in the neonatal period than normal infants.

Those especially at risk are:

Teen-agers. Those who have babies are twice as likely to have their babies die before their first birthdays as women in their 20s.

Black infants are about twice as likely to die before their first birthdays as White infants.

Women who smoke, abuse drugs and alcohol, and do not eat correctly are more likely to have a baby of low birthweight.

The situation, in our opinion, is we can either pay a relatively low amount to provide adequate prenatal care for all mothers who need it, or pay a staggering amount later. For example, routine prenatal checkups and counseling averages about $600. Neonatal intensive care can cost as much as $120,000 to $200,000 for an extended period. And this doesn't even include such expenses as handicapped education, welfare for lifelong handicapping conditions, or vocational rehabilitation. The choice is clear, at least to us.

In 1984, the average bill of the 5,500 underweight infants born in Florida was $15,000, for a total of $82.5 million. That expense was shared by parents, insurance companies and taxpayers. The annual cost of neonatal intensive care in this country is over $1.5 billion.

On April 11, U.S. Sen. Lawton Chiles of Florida introduced his Infant Mortality Prevention Act of 1986, also called "Impact '86." It is designed to bring this essential health care to thousands of low-income pregnant women.

"Impact '86" provides for a new Medicaid categorically needy program to permit states, at their option, to extend Medicaid coverage for preventive prenatal, delivery and postpartum medical services to low-income women during pregnancy and for 60 days after delivery, and to their infants up to 1 year of age.

Federal matching funds would be provided, as an incentive to the states' participation, for those services.

The economic reasons for the preventive care program proposed by Chiles are easy to understand. Without such a program, this nation loses twice, in remedial, welfare and correctional costs, as well as in squandered minds.

There's more than just economic reasons, though. It's ethical, moral—call it humanity. We urge Congress to enact the preventive prenatal health care legislation proposed by Chiles, for economic and humanitarian reasons.

[From the Wall Street Journal, July 23, 1985]

SLOWING DROP IN INFANT DEATH RATE RATE FUELS DEBATE ON U.S. SPENDING FOR CHILD, MATERNAL PROGRAMS

(By Alan L. Otten)

WASHINGTON—"We're in the middle of a bad trend," says Sara Rosenbaum of the Children's Defense Fund, "and for the administration still to come forward and cut programs of proven effectiveness is unforgivable."

Replies Dr. James O. Mason, the ranking health official at the Department of Health and Human Services; "Until we know a lot more about why it's happening, simply throwing federal dollars at it won't work. Particularly if it's not met by increased concern at the community level and many other changes."

Ms. Rosenbaum and Dr. Mason represent the two sides in an escalating argument over what to do about a slower-than-expected drop in infant mortality rates—long regarded as a bellwether social indicator. As is so frequently the case in Washington, both sides are probably at least partly right.

SOME GOOD NEWS

There's some good news, to be sure. Infant mortaility—deaths during the first year of life—continues to fall, for blacks as well as whites. The preliminary overall rate for 1984 was 10.6 deaths per 1,000 live births, a 57% drop since 1965.

But there's lots a bod news, too. Preliminary data show the rate of decline slowing over the past two years. Each year, 10,000 infants still die. The black infant mortality rate still is double the white rate. The incidence of low-birth-weight babies—5.5 pounds or less and 40 times likelier to die in the first month than are normal-weight babies—remains distressingly high, particularly among blacks. The proportion of pregnant women receiving prenatal care during the first trimester actually has been declining.

All this adds up to a situation the administration concedes is "disquieting" and "cause for concern," but which liberal groups insist is far more serious than that.

They want higher spending on a broad range of child and maternal health programs that the Reagan administration has cut back, frozen or allowed only minimal increases. The administration says it's spending more than its critics contend. Exact figures are hard to separate from broad * * *. But, for example, in * * * supplemental nutrition for infants and pregnant women, the administration is projecting a 2% increase in the current fiscal year, to $1.44 billion, a sum that liberals note will cover only the same number of individuals.

The Department of Health and Human Services predicts the nation still will meet one key goal set by the Public Health Service in 1979; to cut the overall intant mortality rate to 9.0 deaths per 1000 live births by 1990. However, it admits that other major infant and maternal health goals set for 1990 will be missed, some by wide margins, and, in particular, goals that affect blacks. Health and Human Services Secretary Margaret Heckler will try to shed more light on the administration's attitude in a speech to the National Urban League here today.

At some point, of course, infant mortality rate will reach an irreducible minimum, but most experts say the U.S. is nowhere near there yet. Largely because of its high proportion of low-birth-weight babies, the U.S. has been falling further behind other industrialized nations, in 1980 ranking behind 15 others, and their infant mortality rates continue to drop. The rate for U.S. whites alone still puts this nation only in 12th place.

TECHNOLOGY HELPED REDUCE RATE

Much of the U.S. decline in infant mortality over the past two decades has resulted from technological advances in the care of low-birth-weight and other problem births and to the steady spread of intensive-care units for the newborn, Now, says D. Vince L. Hutchins, head of maternal and child health programs at Health and Human Services, "we may be near the maximum" of what technology can do in this area.

Other factors also are making it hard to bring down infant mortality now, administration official say: the large numbers on pregnant teen-agers, especially poor young women at high risk for problem births; somking, drinking and rug abuse during pregnancy; and the reluctance of many poor women to seek early prenatal care, even when it's available.

"And why is it always federal money" that must solve these problems? Dr. Mason demands. "Primary responsibility for the achievement of the 1990 goals," he argues, rests with state and local health agencies and the pregnant women themselves.

The major federal responsibility right now, he says, is research to find out what's happening and why, "and that we take very seriously," with more than a dozen tasks forces at work.

Naturally, all this doesn't impress the critics. Sure, they say, it would be nice to reduce teen-age pregnancy, get pregnant women to stop smoking, and have state and local governments do more. But the federal government also must spend more, on everything from family planning and prenatal services to Medicaid and food programs for low-income people.

Administration cutbacks in prenatal and infant programs "have contributed significantly to the change of trend in the infant mortality rate," Dr. C. Arden Miller, a public health specialist at the University of North Carolina, writes in the July Scientific American. He accuses the Reaganities of "slavishly trying to implement an ideology, when the better course might be to allow some exceptions, especially cost-effective exceptions."

For example, a prestigious committee of the National Academy of Sciences' Institute of Medicine recently reported "overwhelming evidence" that early prenatal care makes for higher birth weights, and that every $1 spent on such care for low-income women would save more than $3 in care of low-weight babies after birth. Yet in 1982, slightly over one-fifth of all pregnant white women and well over one-third of pregnant black women didn't get first-trimester care.

Moreover, administration critics note, many areas of longtime unemployment and high poverty currently are experiencing level or even rising infant mortality rates, expecially for older infants. "You are talking about a Third World phenomenon here in the U.S." charges Ms. Rosenbaum." Babies dying because of infectious diseases, poor nutrition, lack of access to basic medical care."

Paradoxically, White House support of right-to-life efforts to curb abortion could swell infant mortality figures. Unintended or unwanted pregnancies often produce high-risk babies, but since the Supreme Court's abortion decision, more women have chosen to abort unwanted pregnancies.

Studies by Michael Grossman and colleagues at the National Bureau of Economic Research conclude that the wider availability of abortion has been "the single most important factor in reducing the neonatal mortality rate" among blacks over the past two decades, and also helped cut the white rate. "If abortion were illegal," Mr. Grossman writes, "neonatal mortality, especially among blacks, would fall more slowly than otherwise, and might even rise."

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PREVENTING INFANT MORTALITY: INTERGOVERNMENTAL DIMENSIONS OF A NATIONAL PROBLEM

WEDNESDAY, SEPTEMBER 11, 1985

U.S. SENATE,
SUBCOMMITTEE ON INTERGOVERNMENTAL RELATIONS,
COMMITTEE ON GOVERNMENTAL AFFAIRS,
Miami, FL.

The subcommittee met at 9:10 a.m., Commission Chambers, Dade County Courthouse, Miami, FL, Hon. Lawton Chiles presiding.

Present: Senator Chiles.

Staff present: Margaret Wrightson, staff director; Robert F. Harris, minority staff director; Carnie Hayes and Celeste DeLorge, professional staff members; and Jodi L. Mathison, chief clerk.

OPENING STATEMENT OF SENATOR CHILES

Senator CHILES. Good morning. We are going to convene our hearing. We are under some time problems today, in that the Senates going to have a cloture vote on the South Africa issue early in the afternoon. So we are going to have to end the hearing just a little bit early. I have to catch a 12 o'clock plane.

Late yesterday afternoon it looked like we were going to have to cancel our hearing, but thank goodness we didn't need to do that. We are looking forward to Mrs. Robb, Governor Graham, and Governor Riley arriving momentarily.

I am going to start with my opening statement, and we might even put some later witnesses on before because, of the time constraints we are facing.

A number of you asked me about my hand. I feel like I ought to carry mimeographed sheets around, maybe, so I could explain. It would be a lot easier. Let me say this as an example: If your wife tells you to clean a window or a door, don't clean it too well. I cleaned my own door and I did too good a job; and then I later ran through that and ended up cutting myself a little bit.

And this space apparatus is something they require me to wear about 2 or 3 more weeks. It looks a little worse than it is.

Infant mortality is our subject today. And infant mortality, children dying before their first birthday, is a national shame.

Despite dramatic technological advances, America is still seventeenth in the world in infant mortality. That means it's behind Singapore, Australia, Japan, Hong Kong, and most of Western Europe.

When I think about that, a child born in Singapore has a better chance of living through the first year than a child born in the United States, it just sort of boggles my mind. A country like ours, blessed with every resource we have—the kind of health and medical resources we have and the kind of doctors—and this sort of infant mortality rate.

We were making progress.

Since 1956 there's been a drop in the infant mortality rate to 10.6 per 1,000 live births. That 10.6 is 10.6 deaths.

Yet the estimates for the first 6 months of 1985 tells us that our number is going up to 11 infants dying of ever 1,000 born. Now that's a pretty dramatic reversal, because what we've seen since 1965 is the curve has been coming down.

We began to worry, because the curve began to flatten and it was not coming down at the same rate. But now we see it is actually turning around and going back up, and it tells us this is something that we must deal with.

The main reason we are having this hearing in conjunction with the meeting of the Southern Governors' Association is that the southern States have the worst record in infant mortality.

Ten of the 11 States with the highest infant mortality rates are in the South. And as the Senator for the State of Florida, I am disturbed that my State ranks ninth in the Nation in the death of babies before their first birthday.

Despite any apparent progress over the past 20 years in the battle against infant deaths, there is still some disparity in the mortality rate along economic lines. Low-income families are hardest hit, and there's still a wide gap along racial and ethnic lines, with black infants being twice as likely to be born prematurely and to suffer low birth weight and die before their first birthdays.

There are still great differences among regions within the States, and even within the communities. For example, right here in Miami the rate of infant deaths for the Liberty City population is 20 to 25 per 1,000 live births.

The innercity area of Tampa has a low birth level of almost 160 infants per 1,000, while a neighboring suburb had fewer than 20 infants per 1,000 low birth weights.

These figures don't reflect the stillbirths, the miscarriages and spontaneous abortions due to the inadequate prenatal care and nutrition. These figures don't count the human and economic costs of the heroic efforts to save underweight babies. They don't address treating the life-long handicapping conditions associated with low birth weight, such as the annual cost of neonatal intensive care of $1.5 billion and the $20,000 to $100,000 cost to graduate a low-birth-weight infant from neonatal intensive care.

The figures don't explain why America falls behind far less developed and affluent countries with far fewer physicians and hospital beds per capita.

Most of all, figures don't portary the individual hearbreak and the tragedy of families of infants who die before their first birthday.

One woman wrote me that after numerous attempts to secure prenatal care for her 17-year-old daughter:

> We couldn't get the money to take her to a doctor, and the baby died a few months after it was born. I still think the baby's death was a blessing by God, because he was in poor health. If we had gotten help for her early, maybe her baby would have been born okay. But I didn't have money.

In the 3 hours we are going to spend at this hearing, 6 infants less than 1 year old will die in the State of Florida.

Infant mortality is a national shame because so many infant deaths are preventable through access to adequate prenatal care and nutrition and thus the reduction of low birth weight.

Why aren't adequate prenatal services and programs like these available throughout the country? Basically the answer lies in our fragmented and multileveled health-care system. Federal, private and employer-provided insurance have gaps in coverage. Different providers and health-care professionals can't agree on who should provide what level of care to in-need populations. Our educational, health and social service system leaves too many pregnant women and their families ignorant of good prenatal practices and the availability and importance of care.

At the recommendation of the National Institute of Medicine, I have introduced legislation to create a National Commission to Prevent Infant Mortality.

The commission is needed to analyze our fragmented and uncoordinated system and make recommendations to each level of government and the private sector on the most effective and cost-beneficial way to expand care to the high-risk, unserved and underserved population. Such a commission can point the way to achieving an accessible, efficient and streamlined system of services.

We know what causes a great portion of infant deaths. It's the low birth weight. And we know it can be reduced by more adequate prenatal care and education. We know that the health and lifestyle factors are—what they are: Smoking, alcohol consumption, inadequate nutrition. We know who the high-risk populations are: Blacks and Hispanics, the poor, young teens, and women over 35.

What we don't have as a Nation is a strategy and game plan, a spcific agenda to recommend the quickest, most effective and cost-beneficial ways to move our fragmented, uncoordinated system of health services, providers, insurance benefits, and private and public initiatives into a network of access to prenatal care for everyone.

In other words, we don't have a team. We've got some individual stars but no unified agenda and no national commitment to solve this problem.

Today we'll hear about the program, the progress that is being made, and the problems to do it in the region of the country hardest hit by infant mortality—the South. But we will also hear about the obstacles and the gaps that need to be addressed.

We will hear from Governors, a first lady, and State legislators about the magnitude of the problem in their States and the programs that are working. We will hear about the effort—what they're mounting to reduce infant mortality, the Southern Governors' Association is mounting to reduce infant mortality in the region and their individual struggles to meet their States' unique and common needs and the obstacles they are facing. We will hear from individuals who are on the frontlines in programs to expand

and improve prenatal care for people who otherwise would go unserved.

But we will also hear from individuals who have fallen through the cracks in the system through lack of knowledge, eligibility or access. We can be proud that prenatal services in Broward have grown by 30 percent from 1981, from 2,400 individuals served to 3,100 in 1985. But we can't be complacent when the need for services in the same period has grown by 19 percent, from 3,900 to 4,700. That means the gap has actually widened from 1,500 unserved, in 1981, to 1,600 this year. We can applaud Lee County's effort and success in serving 954 clients with a little over $300,000 in 1985. But we cannot forget their projection that services will be needed for 1,400 more people this year and next.

What this hearing is all about is how to take what we know and turn it into what we do, as a nation, regions, States, and the localities, to reduce infant mortality.

Our first witnesses today are going to be Hon. John Traeger, a State senator from Texas, and chairman of the Southern Legislative Conference, and State Senator Robert Scott of Virginia. Both have been active in the State level trying to bring about more effective prenatal care in the range of services that will improve infant care and health and survival.

I'm delighted to have these two Senators come forward.

Mr. Traeger, you want to lead off here?

And let me just tell you that we welcome you and we are delighted to have you in Florida. We're always delighted to have somebody from Texas come here and share their knowledge and expertise and someone from the Commonwealth of Virginia as well.

TESTIMONY OF HON. JOHN TRAEGER, A STATE SENATOR FROM THE STATE OF TEXAS AND CHAIRMAN, SOUTHERN LEGISLATIVE CONFERENCE

Mr. Traeger. Thank you very much, Senator, and I appreciate the opportunity of stating our piece through you and through your committee to the U.S. Congress, where certainly some of the answers we hope lie and some of the desire for a solution we hope is pressing. We certainly found some problems.

We attempted to find solutions at the State level, and I'm satisfied we did.

I have a prepared statement, sir. But with your permission I'd like to enter it into the record.

Mr. Chiles. It will be included in full in the record, and we are delighted to have you lead off as you see fit.

Mr. Traeger. Thank you.

I generally don't like to listen to four or five pages of groaning and reading. And if you will, I'll just amplify some remarks as to what we said.

To give you just a bit of background, Texas, as you know, is a very large State. We find our health problems are scattered by geography. And one of the unique problems we have is the tremendous distances to be served, quite often in areas where there are no hospitals and no, really, medical services available of the nature and type that any population needs. So we're faced—our problems are compounded in that we've discovered and we are chagrined to find, the total neglect in some areas in which we had felt we were doing a pretty good job.

Our Governor, our Lieutenant Governor, and our speaker appointed the task force, which consisted of just about representatives from every type of medical provider, from the legislature, itself, from most socially concerned organizations in the State and from the medical association, also from the hospital association. And we, the county officials, and State officials, we have a real gamut of people to get their expertise and also through osmosis to settle in on the program we were in.

And when we started we had some that felt we were fighting smoke. So there really was no apparent way we could get our hands on this thing.

The more we got into it, however, through a very comprehensive set-up of hearings the members held throughout the field, the free clinics. We got people that have never been within 5 miles to the free clinics. And you can see what happens there and the need, where you would see 200 or 300 mothers lined up with one very devoted but terrifically overworked physician trying to provide service.

Now, it doesn't take very much for even the most calloused individual to look at that situation and realize we've got to do something. So we then turned to work to see what can we do effectively to utilize the Federal programs available to us and to amplify through our own efforts the programs we had in place at that time.

We found after studying our program, was the entire field of infant care, not specifically perinatal or prenatal care, but just care for this particular problem.

And certainly I urge you, and congratulate you on the goal that you create, the setup that would speak to this program from the Federal Government viewpoint.

We found that emerging among all our other issues was this very subject, the one which we felt like we could immediately provide relief from, because you can immediately provide relief in this area. And we also found that there had been a complete dereliction of responsibility on the part of some people that should have been concerned.

Our Texas situation, as most counties were settled back in the original constitution with the idea of providing poor farms, as we call them today, and hospitalization for those unable to take care of themselves. Many counties have departed long since in that they have turned it all over to the State and just washed their hands of responsibility.

Equally guilty were hospitals, many hospitals, who were particularly new, private. Emerging private hospitals who purchased many of our city, county hospitals, who have in the case of political subdivision, sort of ducked out of responsibility by selling the whole deal to a private operator.

As you know, in many cases, they take a very hard line on infant care and prenatal care, and that type of thing. And we put some responsibilities on them that we think are worthwhile. In other words, we found an area that the Federal Government has defaulted in that we thought they certainly shouldn't. And I urge you, as an individual, Senator, to look into the fact that many of the Hill-Burton funded hospitals built throughout the Nation, they've completely defaulted on those obligations that they accepted when they took the money. And the reason is that nobody has every checked to see that they fulfilled those obligations—we checked by individual cases, but——

Mr. CHILES. Very interesting point.

Mr. TRAEGER. And there's been no Federal follow-up on the obligation that each of these Hill-Burton hospitals took.

Now, some of them are meeting these obligations, but there are many more who have not turned to meet them; and others have simply filled their percentage of obligation by charging all the bad debts in the—and it doesn't matter where the bad debts came from, but that's an easy solution, to fill your books and fulfill your Federal obligation. But it's easy to detect.

Another thing, we found some great public institutions in Texas, and we are providing indigent care up to 18 or 20 percent of volume; simply didn't turn anybody away. But we beefed that up by pieces of legislation which are going to require that no person shall be turned away from any hospital in the State of Texas because of lack of funding.

Back to the especially——

Senator CHILES. I'd like to see the legislation that you just passed, if you would provide it.

Mr. TRAEGER. I have it. I will be glad to provide your staff, sir, with a complete copy of our legislation.

We felt it was a very significant legislation and one which when we started out, as I said, the hospitals themselves were represented in our task forces, medical associates, and we had the battles, of course, internally in that committee.

But public opinion, when it was aired and when we went public with out hearings and what have you, I tell you, grass roots demands brought in areas that we previously thought were so callous that we wouldn't get anything, brought a response that to us was really hard to—and I think, for example, in the infant care this year in Texas, and I don't want it to burden you with our problems, as unique as our problems seem. But we have been in Fat City a long time, in Texas. And we have had it pretty good. But recently, as you know, based on the devaluation, which is a very severe thing to us, and the break in the OPEC situation, and what have you, moved us to the opposite situation with about a $2 million budget deficit.

We, in spite of that, the fact that we abolished agencies at this time, and the unheard of, you know, Government creates but doesn't cremate, but we really cremated a few this time. We got rid of the things like the Confederate Graves Commission. We actually went a little bit further. We did cut out some serious agencies that were practicing economy. We have not practiced in Texas since the—but in spite of that, we found an extra $90 million to put into this program, and that came out when we were on the bottom. We took it from holy places like the House of Representatives' funding, that takes care of their travel, and it's from the Senate, from the Governors.

Mr. CHILES. That's sacred.

Mr. **Traeger**. I said sacred cows we were milking in this case.

But the demands, sir, after the hearings and the roots of this committee were so—I'm to the point the entire legislative body in the Government that we are able to do that and put into place what we think will be a greatly improved program in Texas.

One of the ways we solved the area which we are talking about, of course, is a very pragmatic dollar-and-cents fund, which we found, and I know you are aware of, that it costs our—figures, I cannot recall what our figures are; in the area of $25,000 per year to institutionalize a child with serious birth deformities. And this, of course, in most cases, goes throughout the expectant life of the child.

Now, you compare those costs, what they're truly costing us, to the cost of putting in place a program that would speak to that, when you figure that 70 percent of all prenatal problems can be solved. Then you just mathematically, you come up with the fact you are saving money by spending money.

Senator **Chiles**. I'm delighted that you are raising that, because this looks to me that these are circumstances that reinforce what Will Rogers said: "The happiest time in the politician's life is when conscience and convenience call simultaneously".

And we are talking about a program in which literally, for everyone involved, the county commissioners, the people in the State level, and the people from the Federal Government, conscience and convenience calls.

You have an opportunity to do something about human suffering that we have to deal with. And at the same time it's very fiscally responsible, because we are going to save money; we are going to pay now or pay later.

Mr. **Traeger**. Senator, I know that with your experience in the State legislature, and I understand that you served 12 years in the State legislature. And it is certainly your experience in Congress, you have run across the individuals in each legislative body who are cynical about any new care-dispensing or dollar-dispensing program in this neighborhood.

We have got our share, say, of people locked into that in Texas, I'll guarantee you. But we have to be—to put the most light on this subject that you can put on it.

With a comprehensive hearing and by the type of things you are doing here today, we passed this bill. And as I say, it came out of gut money, with only one dissenting vote in our Texas senate probably as crusty a conservative group as you can find.

Senator **Chiles**. You don't look like a fellow that's used to giving away money to me.

Mr. **Traeger**. No, sir. I have been known not to dispense it.

But I am convinced now, and I am convinced we have done the job.

I know you are concerned and we want to endorse your program and recommendation in this area 100 percent. I think the Federal Government has a very distinct role to play. I don't think you should come in and say you are going to solve all our problems, and I don't think you want to do that. But we want your support and to continue, in particular, the WIC Program, which in Texas has been one of the most successful social programs we have had anything to do with.

The Food Stamp Program is rightly important. We faced a problem the same as you face in Florida to a certain extent.

We have a very high Hispanic population in the southern part of Texas with 1,000 miles of common border with Mexico. We have a tremendous influx of legal and illegal immigrants all the time.

Many of these people have a severe language handicap. We found we cannot get mothers into perinatal programs even when they existed because of the language barrier. They were afraid to come up. They don't want anything to have to do with the Government, and that anybody that wears a badge, even a name tag, is a Government that might do something bad to them.

To overcome that, we've undertaken, what in the recent Vietnam war was called, search and destroy and changed it to search and save missions.

We brought people in our health departments into services in these programs, which are now going out and actively wooing these people through pure knowledge and through active seeking propositions to bring these mothers in for care early.

We have had the situation in which many mothers didn't know about their problems until they stumbled up the steps of their hospital for delivery.

Senator **Chiles**. Senator, we thank you very much for your testimony.

Because of our time schedule——

Mr. **Traeger**. I get carried away, sir. And I apologize.

Senator **Chiles**. Governor Riley has to catch a plane shortly. I'd like to be able to submit some questions to you, if I could.

Mr. **Traeger**. Certainly can.

Senator **Chiles**. And, again, we look forward to using you and Texas as a resource as we go forward to trying to set up this Commission. And I thank you very much, very much for your time.

Mr. **Traeger**. Thank you, Senator. And I commend you for taking this.

[Senator Traeger's prepared statement follows:]

PREPARED STATEMENT OF STATE SENATOR JOHN TRAEGER, TEXAS

MATERNITY AND INFANT CARE

Texas is unique among the states in the nation in several ways. It is the third most populated state in the country and it is growing. By 1990, the population is expected to reach 19 million. About one third of the population are members of a racial/ethnic minority with Hispanics comprising the largest minority group. Texas is large, more than 267,000 square miles, dwarfing all other states except Alaska.

Many of the characteristics that make Texas unique also affect the health services available to its population. The size often means that great distances must be traveled to obtain health care. Poverty, however, is probably the most serious barrier to obtaining adequate health services in Texas. This is a problem that affects not just the poor individuals in a health crisis but all of us. The longer the problem is ignored, the more expensive the consequences are for everyone.

Recognizing this issue in Texas, a Task Force on Indigent Health Care was appointed by the Governor, Lieutenant Governor and Speaker of the House in September 1983. The 71 Task Force members included elected officials, physicians, hospital administrators, medical school faculty, business and labor leaders, consumers, and representatives of health agencies. Numerous public hearings, site visits, and meetings with community leaders and agencies were held to determine the health needs of the indigent in Texas.

Through this Task Force, maternity and infant health services were identified as the top priority health need for the indigent in Texas. The Task Force then requested the Texas Department of Health to develop a perinatal care plan that could be a means to meeting this particular need. The perinatal plan as developed by TDH consisted of ten basic recommendations as follows:

1. Develop new community-based prenatal services in underserved areas.
2. Provide an integrated mechanism for consultation, referral and care of the high risk pregnant woman.
3. Initiate a health promotion campaign to "market" prenatal care.

4. Develop the State into perinatal planning and education areas.
5. Expand Medicaid coverage for pregnancy-related services.
6. Establish State funding for hospital delivery for medically indigent patients who are not eligible for Medicaid.
7. Establish State funding for neonatal intensive care for low income infants not eligible for Medicaid.
8. Improve emergency transportation to intensive perinatal care both for pregnant women and infants.
9. Develop a system of high risk infant follow-up.
10. Establish projects for adolescent pregnancy and pregnancy prevention.

The Task Force had many other recommendations (50 in all) to improve health care of the indigent people of Texas. While several have the potential for indirectly supporting our concerns for infant and maternal health I will deal more specifically with the statement expressed in the Final Task Force Report, that "Maternity services have been identified as the top priority health care service for indigents in Texas. Provision of maternity services can reduce the need for future medical services for both mother and child."

Key State legislators took this recommendation most seriously and pressed for legislation that would encompass all of the priorities as set forth in the preliminary plan developed by the TDH. The movement in this direction had strong support from such a body as the World Health Organization which defined maternity care as consisting of "the care of the pregnant woman, her safe delivery, her postnatal care and examination, the care of her newborn infant, and the maintenance of lactation..." Other experts have noted that prenatal care objectives should include: 1) identification of the high risk pregnancy; 2) use of currently accepted techniques of prevention and treatment of pregnancy complications; 3) use of various disciplines to deal with emotional, physical, nutritional and other needs; 4) provision of interconceptual care; and 5) education for women and their families concerning pregnancy, parenting and family living.

Significance of early prenatal care lies partly in the estimation that about 70% of complications can be anticipated and noted prior to delivery. Studies show that early and adequate prenatal care, especially for women with high risk pregnancies, is consistently and strongly associated with improvement of the low birth weight infant and survival of these infants. The percentage of low birth weight infants (2500 grams or less) has been found to be higher for those women without care in the first trimester of pregnancy. Perinatal mortality and morbidity is associated with birth weight, social and environmental background of the mother, poverty and failure to obtain adequate care early in pregnancy. The most signficant risk factors associated with perinatal mortality and morbidity are related to the mother's race, parity, age, health care, previous fetal loss, poverty, unwanted or illegitimate pregnancy, multiple births, birth defects, maternal morbidity and education.

One study noted that for women without prenatal care, the infant mortality rates were between four and tenfold greater than the rates for those receiving more than nine prenatal examinations, even when poverty, race, birth weight and geography were considered.

Public health in Texas is provided through a network of local county health departments and state operated public health regions. Prenatal maternity and child health care are available to low income families but the greatest unmet need had been the unavailability of hospitalization or delivery care for the pregnant woman and hospital care for the sick neonate. In 1983, a beginning was made in dealing with this particular problem of inadequate means for hospital deliveries of poor pregnant women. The federal government passed in that year the Emergency Expenditure to Meet National Needs Act of 1983 (Jobs Bill) as a component of the Economic Recovery Act through which the State of Texas received 5.3 million to serve the health needs of disadvantaged mothers and children. The State decided that this money would be used to fill that need for intrapartum care (delivery) and an attempt would be made to provide this service through capitation levels.

The Texas Department of Health through the Bureau of Maternal and Child Health sought and obtained the cooperation and participation of local health departments, federally funded primary care centers, private physicians, and hospitals to provide additional prenatal care, medical consultation and hospital delivery care. In 1984, we had 23 (final) contracts (15 with local health departments and 8 with community health centers) totalling $4,440,530. In addition, Jobs Bill Programs were funded in 7 of our Public Health Regions to a total of $1,929,315.

Jobs Bill monies served a total of 1,883 women with comprehensive maternity care including intrapartum services. Of this number, 910 deliveries were arranged through our contracts with local health departments, 502 through contracts with community health centers and 471 through the public health regions. Public Health Region 8 in the Lower Rio Grande Valley area has a particular relevance because of its high unemployment rate. In that area alone, 1014 women were assisted with maternity care and delivery in a hospital. All of the women assisted with in-hospital care were evaluated as high risk pregnancies as required by the Block Grant legislation.

This experience served as a basis for some of the recommendations made in the TDH perinatal plan. The plans then became the resource for the development of the bill that was passed in the 1985 legislative session and named the Maternal and Infant Health Improvement Act.

This bill permits the Texas Department of Health to establish program to deliver comprehensive maternity and infant health services to eligible women and infants. If a program is established, the Board of Health shall adopt rules relating to the services and a system of priorities for these services. The program may provide any or all of the following:

- comprehensive prenatal and perinatal care
- obstetrical cconsultation services
- intrapartum care
- neonatal intensive care
- follow-up of high risk infants
- emergency medical transportation
- health education and health promotion
- special program for adolescent pregnancy and pregnancy prevention

It also speaks to the determination of need for services and to the use of the Department to deliver services to the extent that the existing private or public providers are unavailable or unable to provide these services.

To carry out this program of perinatal care, the legislature appropriated to the TDH $6,750,000 for the fiscal year ending August 31, 1986 and $15,470,000 for the fiscal year ending August 31, 1987.

In addition, it is worthy of note that $7,500,000 was appropriated for each of the fiscal years to the Texas Department of Human Resources for Medicaid coverage for the medically needy, much of which will help that Department to continue the expansion just begun of coverage for the medically needy pregnant women. This goes beyond the past coverage of only the AFDC (or financial recipient) of services.

Texas has made progress in improving mother's health which will result in lower infant morbidity and mortality. We know more must be done and that is why we have adopted the slogan "Mother's Care is Baby's Care" in order to market the concept of good maternity services for the end result of good infant health.

The federal government's role in improving mothers and infants health through the Title V Block Grant and nutritional program such as the WIC and Food Stamps Program is critical to our needs in Texas. Due to the expanding population and continued high unemployment in many areas of Texas, we need increased funding both at the State and Federal levels. We view these funds as preventive, and feel very strongly that each dollar you invest will result in several times that investment in benefits to our population.

Senator CHILES. Senator Scott has graciously said he would reserve his testimony for a minute to allow Governor Riley to come up here.

Governor Riley is going to have to catch a plane, and we wanted to start off our hearing with him to start with. This is another example, I think, of the comity here that's being provided by the legislative and the executive branch in the subject matter.

Governor Riley, we are just delighted to have you here today, and we recognize the leadership role that you have performed, heading up the task force for the Southern Governors' Association. And we know of your great interest in this problem and the work that you have all done. Your interim report is out, and we've enjoyed studying that. That interim report is going to be a part of our record and we are delighted to have you here to give us your testimony today.

TESTIMONY OF HON. RICHARD W. RILEY, GOVERNOR, STATE OF SOUTH CAROLINA

Governor RILEY. Thank you so much, Senator. And I appreciate the opportunity of being here.

We have had a very fine Southern Governors' Conference here in south Florida, and everybody's been mighty helpful. And we've dealt with some heavy issues, none of which are more important than the issue that you are addressing here this morning.

It's a pleasure for me to follow Senator Traeger, who has provided great leadership in Texas, also in the Southern Legislative Conference. And I'm so pleased that he's the chairman of that organization and will be providing that kind of leadership in the State legislatures in the South.

I have three members here of our Task Force on Infant Mortality, which is sponsored, as you know, by the Southern Governors' and Southern Legislative Conference: Senator Bobby Scott, Lynda Robb I think is going to testify later, and Beverly Hogan of Mississippi.

And it's a pleasure for me to have Rae Grad who is our project director and a very well-known authority on this subject, and her assistant, Ann Mayhew, and from my office, Sarah Shuptrine, chairman of the task force work group.

All of these people are here today to provide any help and input to assist in your efforts.

Senator CHILES. We are delighted that they're here with you, and we look forward to using them all as the resource people in our endeavor.

Governor RILEY. I appreciate the opportunity to come before the Senate Subcommittee on Intergovernmental Relations on the subject of infant mortality.

First of all, I want to congratulate you on your national efforts to improve infant mortality. The commission you have proposed in Senate bill 1209 is structured to be action-oriented and will help bring visibility and momentum and movement to what is an intolerable situation in our country.

Babies are dying that do not have to die. Babies are going through life with defects that do not have to have them. That's a travesty of our health care system. We know what to do to save babies' lives, and we know how to do it.

I have yet to hear a politician or a health-planner or a public citizen go on record to say: It's all right even though we know some things to do that will help to not let babies die that could be saved or let them suffer through life with disabilities when that could be prevented.

What's missing is the political will and the societal commitment to place healthy mothers and healthy babies as a top priority on the local, State, and Federal agendas.

The picture is not entirely bleak. There are movements afoot to help mothers and babies in creative and competent ways. However, the movements are yet to be coordinated, they're yet to be organized, nor are they continuous. And that's where I think your commission can do so much good work.

We need a national focus to give the isolated energies now being generated to improve infant mortality a sense of cohesiveness and a sense of purpose.

Let me begin by telling you about some of the things that please me regarding what is being done for infant mortality—and then some that bring me concern—from my vantage point as a Governor.

First, I am proud of the work of the Southern Regional Task Force on Infant Mortality, a relatively new effort which I have had the privilege to chair, formed last year by the Southern Governors' Association and the Southern Legislative Conference.

The task force has been at work producing reports and working with the States to find ways to improve the infant mortality picture in the South. This effort began in the South because the southern States, as you know, have the worst track record for infant mortality; and it is in our region where the most concentrated improvement needs to happen.

In 1982, 10 of the 11 States in the Nation with the highest infant mortality rates were in the South. Our task force is committed to doing everything we can to help the Southern States put their full weight behind changes needed to improve the likelihood of a baby being born healthy and strong.

As we well know, the problem of infant mortality is not just a medical problem. It is now policymakers who need to carry the ball to establish many of the prevention efforts we know can work to save babies' lives.

To that end, the task force will be issuing a report in November outlining recommendations that we see as important priorities for the South in order to improve its standing in infant mortality. Along with this report, we will have model legislation for State lawmakers to use to initiate legislative or policy changes to improve infant mortality in their respective States.

Once our recommendations and model legislation are issued, we will continue to work with State policymakers, corporate leaders, community groups, as well as health professionals, to make sure that we maintain the kind of momentum we have generated to date.

We will be providing technical assistance to States over the next couple of years in order to put the knowledge and expert opinion we have gathered to good use.

In my own home State of South Carolina we are attempting to deal with the issue of infant health.

I was pleased to hear Senator Traeger talk about what's happening in Texas; and I know Bobby will tell you about Virginia.

Although South Carolina's infant mortality statistics hover near the low end of the scale, that only gives us more impetus to do all we can to turn the trend around. We have passed recently in South Carolina an indigent health-care bill, which, among other things, provides primary health-care opportunities for indigent families. We also have increased appropriations for our high-risk pregnancy program and we have expanded prenatal care through our country health clinics so as to provide such care in every single county of our State.

We have a strong healthy mothers, healthy babies coalition as well as an active perinatal association.

Through solid commitment, we are moving ahead.

While each State can endeavor to take steps to address this need, the root causes of infant mortality are not being addressed in a consistent, comprehensive manner in the States or across the Nation.

Poverty, teenage pregnancy, drug and alcohol abuse, out-of-wedlock births, illiteracy, poor nutrition, are among the many complex factors that put a pregnant woman and her infant a risk for death or disability. Poverty has a great deal to do with infant mortality, and until we recognize that it does and take affirmative steps to do something about it, we will be held back in our progress to try and to make a difference.

A person's income should not be a deciding factor for whether or not they can receive proper health care. Prenatal and early childhood health care must be universally available and accessible to anyone who needs it. I would ask the Commission to seriously address the poverty issue, its relationship to infant mortality and what can be done about it.

In addition to poverty, I am concerned that not enough attention is paid to the social risks which affect infant mortality. The young teens, the high school dropouts, the jobless, the minority women and children in all our States, have social risks which we must pay as much attention to as their medical risks.

For example, the postneonatal mortality rate—that is, babies who die sometime between 1 month and 1 year of age—is rising in certain areas. This is a very worrisome trend because it portends an overall increase in infant mortality rates.

One of the reasons that we suspect there is a rise in postneonatal mortality—over 1 month old by dying before 1 year—is due to the fact that babies born at risk are saved with medical technology and then sent home to less-than-adequate living conditions—to homes which are unstable, or to parents that are too young to make decisions about health and nutrition or to parents who are too poor to afford minimum health standards and have difficulty maintaining optimal health status for their children.

I would ask the commission to look into ways to affect the social risk factors for improving infant mortality.

Nutrition is another area of great concern. There is hunger in America, and poor nutrition can lead to unhealthy outcomes in pregnancy and the early months of life.

In our Nation, the WIC Program is where nutritional health can be found for mothers and babies.

Yet the WIC Program only serves one-third of those who are eligible and even less than that in certain areas of the South.

Nutritionists have too large a case load to do meaningful work with their clients. In one Southern State, nutritionists carry a 1/1000 ratio for their client load. WIC eligibility differs from prenatal care eligibility. There are waiting lists and bureaucratic forms which act as barriers to receive the benefits of WIC.

I would ask the commission to address the adequacy of the WIC Program and what can be done to improve it.

With the advent of the block grants in the early 1980's, much responsibility was thrown very quickly into the laps of the States along with a 25-percent or more reduction in Federal funding. In a recent survey completed by our task force, 100 percent of the States responded that block grant funds were inadequate to provide comnprehensive prenatal and pediatric care to all those in need. I would also ask the commission to consider the adequacy of the maternal and child health block grant funds in their deliberations.

One of the major problems we face is that there is no national health policy and no national policy for preventing infant mortality. And that needs to be changed. There is no groundswell of Federal leadership or financial support for the simple preventive efforts which can made such a difference for the future citizens of our country. When the Federal Government imposes confusing rules, contradiciting regulations, cuts funds and exercises cautious leadership, the work load for the States doubles.

Your leadership is needed to bring focus to Federal issues related to infant health.

The irony is how cost effective and efficient it would be to address these concerns. So often money spent on State and Federal programs is never recouped. Money or time spent on improving the outcome of mothers and the outcome of babies is earned back by lowering of health costs and the need for State and Federal support of long-term health and welfare programs. Dollars and time do have to be invested, but the payback in dollars and lives saved is crucial for the well-being of our great Nation.

Senator, I applaud your efforts to place a Federal spotlight on this problem of infant mortality and I pledge to you my commitment and support for your activities. The time for talk is ending and the time for action is now beginning. Our task force is proud to be a part of that action agenda.

Senator CHILES. Well, I am—I feel like a latecomer to this problem, but the more I see, Governor, the more I am delighted to see the work that's out there and has been done.

As usual, the States always sort of find and discover these problems and bring them to our attention. I have to tell you that the work that you and the Southern Governors and your conference has done make me proud of the South. We've got a heck of a problem, but we are not covering up. We are ready to deal with it and face up to it. And it's a problem this country has to face up to.

We thank you very much for your leadership. And we look forward to your leadership, and we look forard to your continued leadership as we go forward in this endeavor.

Governor RILEY. Thank you so much.

Senator CHILES. Thank you.

I wonder if the first lady of Virginia, Mrs. Lynda Robb, would like to come and join Senator Scott and let them both tell us about the great Commonwealth of Virginia and the problem there.

We are very delighted to have you here.

TESTIMONY OF LYNDA ROBB, FIRST LADY, STATE OF VIRGINIA; AND HON. ROBERT SCOTT, STATE SENATOR FROM THE STATE OF VIRGINIA

Mrs. ROBB. Thank you, Senator. I'm very pleased to be here. And I would just like to double and triple everything that's been said so far.

Just let me depart a minute from my testimony to say that I hear lots of children's voices. And as a mother, I am pleased to hear them, because that's what we are talking about.

And not so long ago, Bobby and I were at children—King's Daughters Hospital at Norfolk, and we saw a little baby there that had been in that hospital months. And when you talk about cost effectiveness, as a mother, I mean, I have to immediately say that little baby could be my little baby, it could be Bobby's, it could be all of ours. It's something we care very much about.

And before you even start to talk about how much money, you have to think the pain and the suffering the child has gone through and the mother and the family and what it means to them.

And that little baby could have been delivered there at King's Daughters Hospital for $1,500 or very inexpensive. Bobby knows all the figures. But that little baby is there because the mother didn't get the prenatal care, didn't get the nutrition, didn't have the nurturing and the opportunity to get into a health-care situation where she had that help. And so that baby was in the hospital for weeks and months.

And I just got a letter saying that baby was finally able to go home.

But there was this little baby who was trying to talk to us as we were having our meeting, and we could see the suffering. We could see, also, the amount that was being spent to save that baby's life and to nurture that baby in the hospital. And not only was that mother suffering, but our tax dollars were going, because that baby could have been delivered so successfully, healthy, if the mother had only gotten the support she needed.

So I am very pleased to be here to testify as the first mother to testify this morning, since that's what we are talking about.

Senator CHILES. Absolutely.

Mrs. ROBB. My husband, when he proposed the Southern Governor's Task Force on Infant Mortality to the Southern Governors Association, they sponsored the policy resolution, immediately, then he put me on it. Each Governor appointed one member to the task force.

All these other Governors appointed the head of their departments of health and human resources, so I asked Chuck why did you put me on the commission?

And he said: Well, we have to have somebody who has a little practical experience.

But, anyway, I'd like to thank you for what you are doing. I want to tell you a little bit about what we are doing in our State. And I know Bobby can tell you more. But it is an area where we do—there's a great deal of interest, and I am pleased with their leadership.

Virginia is a thriving and healthy State, and yet many of our sister States, we, along with them, we fare relatively poorly in infant mortality statistics. Our State ranges from fast-paced living conditions in the northern Virginia area near Washington, DC, to our rural stretches in Appalachia in our southwestern region, to our migrant workers and our transient military families on our eastern shore to our typical urban problems and strengths in our capitol city of Richmond.

We have a comprehensive plan for regionalized material and child-health services in our State to address this diversity. We also have an excellent public-health system. But obviously something is missing, because almost 1,000 of Virginia's babies die every year, many unnecessarily, before their first birthday.

As a mother of three children, I understand and appreciate the value of quality prenatal care. Prenatal-care services are one of the most cost effective means of health care to prevent expensive problems later on after the birth of the baby. In our State, almost 800 women go through their pregnancies never seeing a doctor until they deliver their babies. They walk into the hospital in labor frequently. And some of the—you were talking earlier about the hospitals that turn these children away; we too have cases of hospitals that turn children away. Some of these are our children.

Two of my three children are teenagers. I have three daughters, so I have a vested interest. So I really understand and appreciate the pressures teenagers have and the struggle that they have and that we all have of establishing themselves as mature people.

Well, pregnancy is a particular hazard to teens because of their immature physical development, their poor diet and the emotional stress. Teenage mothers are at risk for higher infant mortality and other complications, including child abuse of their offspring. In 1983 almost 11,000 babies were born to Virginia teenagers—11,000. And 234 of those teenagers were under 15 years of age.

Knowing that teenager pregnancy and prenatal care are particularly important factors affecting infant mortality, I was eager to do something about them using the momentum from the Southern Regional Task Force on Infant Mortality.

The task force members from Virginia got together with some State health people and we evaluated our resources and capabilities. After some discussion we decided to embark upon a Resource Mothers Program in areas of the State where there were high numbers of pregnant teens and high rates of infant mortality.

A Resource Mothers Program takes unemployed women from a community, trains them to counsel pregnant women and new mothers, and sends them back into the community to work with the high-risk pregnant teens. From my perspective the success of this program centers around communication and community support.

The pregnant teen is more likely to listen to someone from her own community and will be more likely to seek care when her community demonstrates the value of her doing so. And when our friend from Texas was talking about some of their methods, I had to keep thinking about some of these in political terms. And I said, what we needed to do is go get some flushers in our community who would find those subjects, those teens who weren't seeking help, who would reach out to those women in the community who hadn't sought help and didn't know where to go when they found themselves pregnant, who didn't know the resources that there were. And to reach out to those, go find them and bring them into the system and get the health care for them.

Instead of being ignored and chastised, this pregnant mother is a person to be cared for, hopefully by someone she knows and trusts.

And the ripple effect is even as important in our community. We want to deter those teens, also, from becoming pregnant and demonstrating to young women outside their teen years the value of prenatal and early childhood health care. And these are all spillovers from our Resource Mothers Program.

We see resource mothers as an important step in better utilizing a health system that already exists. We are not trying to invent something new, we just want to get the system and the people to meet together.

The funds for this program are Federal, State, and local, a true public/private endeavor. And this program is based on a program that has worked very successfully in South Carolina and Louisiana.

This brings me to the general point that I wanted to make about improving the infant mortality picture not only in the South but all over the country. Whatever our weaknesses, our country has the strength of its family and its community behind it. The family and the community have been the cornerstone of our values and growth. Church groups, community action sororities, and fraternities, associations such as the March of Dimes and the Red Cross, the Boy Scouts and Girl Scouts, the Junior League, many other groups exist as a foundation in every city and town across the country. If we want to see significant changes in infant mortality, I respectfully suggest that we continue our efforts in the health and political arenas, but that we not forget where the changes will actually have to come to make a difference: The family and the community. We all need to involve church and community leaders in all the plans for changes which we discussed today.

In a society such as ours with sophisticated health technology and resources, not all these deaths or disabilities of infants can be prevented.

One of the things I think, also, we're talking about is cost effectiveness, we have been able to save so many babies' lives. But unfortunately some of the babies that we can save still find themselves with disabilities, because they didn't have that health care.

So I think we also need to think of the amount of money we can save by avoiding those disabilities.

We can't prevent them all, but we can prevent many of them if we can get the health care to the mothers.

It is as simple as that. All children should have a fair start in life to allow them to be healthy and productive citizens. It is those children who will be taking care of us, we hope, in our later years.

Thank you for the opportunity to testify before you, and I commend you for your national plans and activities. Thank you.

Senator CHILES. Thank you very much, Mrs. Robb.

Senator Scott, we are delighted to have you here. We know you flew all night and you got your luggage at about 6 o'clock this morning. And you graciously allowed us to shuffle you some on the panel. And we know the rule that you played as a member of the Southern Governors' task force and the rule that you played in the State of Virginia. And we are delighted to have your testimony.

Mr. SCOTT. Thank you very much, Senator Chiles. My name is Robert C. Scott, and I am a member of the senate of Virginia. I am chairman of the Virginia Legislative Task Force on Infant Mortality and a member of the Southern Regional Task Force on Infant Mortality, and an active board member of the Tidewater chapter of the March of Dimes.

I became interested in the problem of infant mortality several years ago when I introduced legislation which would have required Medicaid in Virginia to cover prenatal care for women, for pregnant women, for the first time, if the woman would qualify for Medicaid at the birth of the child. Although Virginia was one of only six States failing to provide this coverage, the bill was defeated. It was subsequently reintroduced several years in a row and finally passed in a watered-down version in 1984, just before the CHAP changes required this coverage.

During the deliberations on that bill and subsequent legislation, it became clear to me that Virginia had the technology not only to reduce the incidence of infant mortality, but also to reduce the incidence of low birth weight and many birth defects.

The problem of infant mortality is well-known. In 1983, 39,400 American babies died before their first birthday; that was more deaths than those caused by diabetes, breast cancer or leukemia, and almost as many as we lost on the Nation's highways.

The infant mortality rate is higher in the black community and amongst teenagers than the rest of the population.

We have found in Virginia that several conditions increase the likelihood of a child dying: Lack of quality prenatal care, poor nutrition, smoking, drinking, and drug use during pregnancy, and the high incidence of teenage pregnancy. These same conditions cause low birth weight, which leads to increased incidence of mental retardation, cerebral palsy, hearing and visual problems, and other birth defects. There is a close correlation, Lynn just pointed out, between infant deaths and birth defects. And one study found that for every three babies that died, two were born so severely handicapped that they required lifetime institutionalization.

So if you cut your infant mortality rate, you are also cutting your defect rate.

The tragedy of these deaths and birth defects is that many were preventable. The shame on us as policy makers is that most of the preventative programs save more money than they cost, both in the long run and in the short run. For example, after reductions in publicly funded prenatal care programs that occurred in San Diego in 1981 and 1982, a follow-up study concluded that the average cost, including prenatal care, for babies born to mothers who had received comprehensive prenatal care was 60 percent of the costs of babies born without the prenatal care.

The institute of medicine, in its landmark study, "Preventing Low Birthweight," [1] found that for every dollar spent to provide comprehensive prenatal care could save $3.38 in the——

Senator CHILES. That's a pretty good bargain.

Mr. SCOTT [continuing]. During the first year of the baby's life.

A California study of a 5-year project found the amount that the net costs for 1,000 women was $750,000, including the perinatal services they received in the program. The cost to 1,000 who did not receive such care was $4.6 million.

The costs were reduced by increasing birth weight among babies born to project patients; reduced prematurity; reduced costs for child protective services; reduced costs for special education and similar services; and reduced costs for emergency room and hospital care.

Many other studies have concluded that money invested in prenatal and nutritional programs, such as the WIC Program, that's been mentioned several times, save more money in reducing the incidence of neonatal intensive care than the programs cost. Significant additional savings accrue due to the low incidence of mental retardation and birth defects.

Lynda mentioned the situation in King's Daughters Hospital. Our budget includes $2.6 million to cover babies that are in the hospital over the 21-day Medicaid limit. So that could be obviously saved if prevented.

If the facts are so clear, why do we need another commission? The proposed commission can serve two essential functions: First, to review readily available information and prepare a specific legislative package; and, two, to serve to keep the issue of infant mortality on the political front burner.

Senator CHILES. I think that point is very well-made and one we need to emphasize. We don't need a commission to study the problem. We know what the problem is. All that work is—has been done and provided to us. We needed a commission to put together an attack plan and to help this generation of nationwide support to implement that plan.

Mr. SCOTT. It is essential that the commission be given specific tasks rather than general goals. One might be to prepare a bill designed to reduce teenage pregnancy, rather than a general goal out-lining the problems which occur when babies have babies.

The establishment of a new task force could suggest to some that new studies need to be done, and that we should wait several years as the evidence is analyzed and that there are many studies which have been done, in the local, congressional area, Presidential Commission, and otherwise, that would outline about all the information anyone would want to know.

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[1] See p. 344.

The question of the need for new studies has been considered by the Southern Regional Task Force on Infant Mortality, and there is a clear concensus that no new studies need to be performed and that participation in the task force should not deter implementation of new programs.

Since Governor Robb proposed the task force at the Southern Governors' Association meeting last year, Virginia has continued the fight against infant mortality.

In the 1985 general assembly session, Virginia expanded prenatal care coverage to the maximum extent allowed under the Federal Medicaid regulations. We appropriated $150,000 to support teenage pregnancy prevention programs. We created congenital abnormalities reporting and education system, which requires reporting birth defects as a vital statistic and provides that the Health Department will notify parents of children born with handicapping conditions of available information, benefit programs and volunteer organizations concerned with the particular condition.

Discussions of bills related to the women's, infants' and children's program led to State money being appropriated to supplement the Federal WIC Program and the implementation of new accounting procedures, that will reduce or eliminate significant unspent balances.

We also established a legislative task force on infant mortality so that recommendations from the southern regional task force will be considered for 1986 general assembly session.

Since the 1985 session, Mrs. Lynda Robb, our first lady of Virginia, proposed a $100,000 pilot project entitled "Resource Mothers" to support low-income teenagers during their pregnancy.

I would also point out that Governor Riley has continued the fight and it's a very comprehensive package in South Carolina, so that I think the southern regional task forces have demonstrated the fact that we have a task force that's not slowed up in any progress.

Senator CHILES. Good.

Mr. SCOTT. I wanted to point out one thing that Senator Traeger pointed out, another burden to the situation, we have mothers that are having to make advanced financial arrangements for hospitals that will accept them. Many are taking advantage of the fact that they show up in an emergency-crisis situation and that hospitals have to take them. And that obviously creates a problem.

In the Danville area, there are severe shortages of obstetricians. And hopefully the task force can address that; 1,300 babies were delivered in that area and there were 4 obstetricians to do that work.

We had complaints of assembly line prenatal care, and it wasn't a surprise that the Danville infant mortality rate is one above the national and State average.

Some women also may be unaware of their eligibility of Medicaid. Sixty percent of those predicted eligible for the Medicaid took advantage of it for prenatal care. The other 40 percent did not.

In Virginia we are trying to figure out how we could get the word out.

The new Federal task force could make many recommendations. It could first adopt a public policy statement that all Americans are entitled to comprehensive prenatal care. This would not only be enlightened social legislation and civilized medical practice, but it would also be sound fiscal policy.

Every preventable infant death is an American tragedy, and the efforts made to save lives will also reduce serious birth defects and handicaps.

I applaud the subcommittee for its concern and I urge the committee to quickly recommend programs that are known to effectively reduce the incidence of infant mortality.

Senator CHILES. Thank you very much, Senator Scott, for your comprehensive statements. And I think the point that all of you have made, that we need to really determine how we get a handle on this. Even where we have these programs out there, the programs don't do us any good if we can't get the people to understand and utilize those programs. So that's going to be one of our greatest tasks of trying to figure through their peer groups and all how we get the word out there and how we bring them into the program.

And it's interesting to hear what your experiences have been, what Texas' experience has been, because that's going to be our big challenge.

Mrs. ROBB. And also uniform standards. That's one of the problems. I mean, I just keep thinking that if I were 15 years old and didn't have a strong family support system, how would I find my way through the system? How would I find out, OK: How can I qualify? Do I qualify for food stamps? Do I qualify for—what about maternal child care?

The different standards; you have to go one place for one thing and another place for another. And you don't have any transportation. What do we do?

Senator CHILES. One of our witnesses that's going to tell us about that is a migrant mother who very much tried to work through the system and tried to find this care all the way through. And her testimony is very, very startling and shocking to us of how difficult it is.

Mr. SCOTT. Senator, skipping around, there's one statement I wanted to make sure I made on the record.

One recommendation the task force could make is to adopt the policy, public policy statement that all Americans are entitled to comprehensive prenatal care. This was not only to enlighten social legislation but civilized medical factors would also be sound fiscal policy.

Senator CHILES. I think it would.

Mrs. ROBB. Second that.

Virginia, we are just as tight as we can be with our money. And Bobby will tell you he's been fighting for it for years. But it's just cost effective.

Senator CHILES. It is.

Mrs. ROBB. That's where you can save your money, is by having healthy babies born.

Senator CHILES. Right.

Well, again, when we talk again about the wealth and the blessing that this country has, we know we've got to sort of follow that admonition to "suffer the little children that come unto me and forbid them not, such is the Kingdom."

So we are delighted to have you all here. Thank you very, very much.

Mrs. **Robb**. Thank you for the work you are doing.

[Mrs. Robb's prepared statement follows:]

PREPARED STATEMENT OF LYNDA ROBB, FIRST LADY, STATE OF VIRGINIA

Thank you, Senator Chiles, for inviting me to testify before your subcommittee on behalf of mothers and babies. Your idea to set up an Infant Mortality Commission is an excellent one, particularly based upon the work we are doing in my state and other states in the southern region. From what I understand, your Commission will not be one that studies the problem, which we already know so much about, but rather will take quick and sure action to sketch out the basis for a national health policy on infant mortality. This is an area in which I have a great deal of interest and I am pleased with your leadership.

I would like first to mention a few things I am involved with in Virginia and then give you some general comments on the direction I think infant mortality improvement needs to take.

Virginia is a thriving and healthy state, yet like many of our sister states, we fare relatively poorly in infant mortality statistics. Our state ranges from fast-paced living conditions in the northern Virginia area near Washington, D.C., to rural stretches in Appalachia in our southwestern region, to migrant workers and transient military families on our Eastern shore to typical urban problems and strengths in our capitol city of Richmond.

We have a comprehensive plan for regionalized maternal and child health services for our state to address this diversity. We also have an excellent public health system. But obviously something is missing because almost 1000 of Virginia's babies die, many unecessarily, before their first birthday.

As a mother of three children, I understand and appreciate the alue of quality prenatal care. Prenatal care services are one of the most cost effective means of health care to prevent expensive problems later on after the birth of the baby. In our state, almost 800 women go through their pregnancies and never see a doctor until they deliver their babies.

Two of my three children are teenagers, so I also understand and appreciate the pressures teenagers have and the struggle that they...and we...all feel establishing themselves as mature people. Pregnancy is a particular hazard to teens because of their immature physical development, poor diet, and emotional stress. Teenage mothers are at risk for higher infant mortality and other complications, including child abuse of their offspring. In 1983, almost 11,000 babies were born to Virginia teenagers, 234 of those teenagers were under fifteen years old.

Knowing that teenage pregnancy and prenatal care are particularly important factors affecting infant mortality, I was eager to do something about them using the momentum from the Southern Regional Task Force on Infant Mortality. The Task Force members from Virginia got together with some state health people and we evaluated our resources and capabilities. After some discussion we decided to embark upon a Resource Mothers Program in areas of the state where there were high numbers of pregnant teens and high rates of infant mortality.

A Resource Mothers Program takes unemployed women from a community, trains them to counsel pregnant women and new mothers, and sends them back into the community to work with the high risk pregnant teens. From my perspective, the success of this program centers around communication and community support. The pregnant teen is more likely to listen to someone from her community and will be more likely to seek care when her community demonstrates the value of her doing so. Instead of being ignored or chastised, she is a person to be cared for by someone she probably knows and trusts. The ripple effect is even as important as the main effect. Deterring other teens from becoming pregnant and demonstrating to young women outside their teen years the value of prenatal and early childhood health care are all spillover results of such a community based project. We see Resource Mothers as an important step in better utilizing a health system that already exists. The funds for this program will be federal, state and local, a true public/private endeavor. This program is based on similar efforts in South Carolina and Louisiana.

This brings me to the general point that I wanted to make about improving the infant mortality picture not only in the South but all over the country. Whatever our weaknesses, our country has the strength of the family and community behind it. The family and the community have been the cornerstone of our values and growth. Church groups, community action sororities and fraternities, associations such as the March of Dimes and the Red Cross, the Boy Scouts and Girl Scouts, the Junior League and so many, many other groups exist as a foundation in every city and town across the country. If we want to see significant changes in infant mortality, I respectfully suggest that we continue our efforts in the health and political arenas, but that we not forget where the change will actually have to come to make a difference: the family and the community. We all need to involve church and community leaders in all the plans for changes which we discuss.

In a society such as ours with sophisticated health technology and resources, not all but many deaths or disabilities of infants can be prevented. It is as simple as that. All children should have a fair start in life to allow them to be healthy and productive citizens. It is those children who will be taking care of us in the future.

Thank you for the opportunity to testify before you. I commend you for your national plans and activities.

Senator CHILES. I think Governor Graham has arrived, and we are going to put him on as our next witness.

Come sit up here, Dr. Mahan. I'm delighted to have you take a chair up here and sit with the Governor.

Governor GRAHAM. Hello.

Senator CHILES. How do you do, Governor.

Governor GRAHAM. Good.

Senator CHILES. We are delighted to have Gov. Bob Graham of the State of Florida here to testify today. We know he's now chairman of the Southern Governors' Conference, and as such, it has been a very important factor in the study that we have had presented to us today or have talked about, by Governor Riley. The interim study that the Governors have done in regard to the infant mortality, we recognize the leadership role that you've played and the role that the Southern Governors are playing in trying to deal with this problem that we have. It's a national problem, but it's also one that we find that the South has the overabundance of. Much of that, of course, because of teenage pregnancies, because of the failure to get people into the system.

But it's a problem that we are attacking and know that we need to attack. And the States have already been dealing with that as we are now trying to put together a national plan.

We are delighted to have you. Governor, your statement in full will be included in the record.

You understand the time constraints that we are operating under, and you are one of the few people that I can say, help me a little bit here, because there are still more witnesses that we want to put on. And I recognize your time constraints as well.

TESTIMONY OF HON. BOB GRAHAM, GOVERNOR, STATE OF FLORIDA, ACCOMPANIED BY CHARLES S. MAHAN, M.D., DIRECTOR, FLORIDA MATERNAL AND CHILD HEALTH SERVICES, DEPARTMENT OF HEALTH AND REHABILITATIVE SERVICES, STATE OF FLORIDA

Governor GRAHAM. Senator Chiles, thank you very much for the opportunity to present what's happening in the South in a better understanding and then responding to this critical issue. I appreciate the leadership that you have provided in this area and the national attention with the legislation that you have introduced, and these hearings focus on the question of infant mortality.

I will just briefly summarize and then introduce a distinguished Floridian who in turn will introduce others who will give their particular perspective on this critical issue.

This issue speaks fundamentally to our society's respect for life. What our values are as human beings are tested in our response to the issue of seeing that each child has an opportunity to be nurtured during gestation, to be safety born into the world and then raised as a healthy, happy, productive member of our society.

We have set some goals for our State in a number of areas. In this particular field, we have set a goal that by the year 1990 the number of deaths per live births in Florida would be 10 or less, which is the number that the Surgeon General has established as the national goal by 1990.

This would represent a continuation of the decline in deaths per live births that we have recently experienced. In 1983, of our 1,000 live births in Florida there were 12.8 children born dead. And in 1984 that number had been reduced to 10.9.

So the trend line is moving in the direction that we have established. And throughout the types of programs that have and will be discussed, we hope to continue that positive movement.

The second goal which relates to an inportant dimension of this issue is reducing the number of teenage births.

Last year 26.3 percent of all births in the State of Florida were to teenage mothers. That propulation represented an inordinately high proportion of those births that were stillborn. It is our goal that by 1990 we would reduce the percentage of teenage births in Florida to 16 percent. That will be a combination of educational programs approved, health programs, and other initiatives, particularly at the clients' level, which we are seeing across our State as having a substantially positive impact in reducing the number of teenage births.

We believe that there is an important national role in this issue. While at the State and local level and at the regional level through such organizations as the task force, headed by Governor Riley, we are working to develop means to reduce infant mortality.

As a nation, we must recognize that our approach has been characterized by inconsistency, lack of coordination and a poor level of public understanding.

Your bill, Senator Chiles, Senate bill 1209, to estabish the national commission to prevent infant mortality is importlant to Florida, to the South, and to America, for three critical reasons.

First, because there are gaps and shortcomings in our services, there is a need for comprehensive coordinated national prevention strategies through an expanded Federal role.

Second, because the population at risk is largely silent, vulnerable, isolated. A powerful and credible advocate, such as your national commission, is required.

And, third, because neonatal care costs our Nation $1½ billion a year. The work of your commission could save the Nation millions of dollars a year.

More importantly, it can save the Nation thousands of children, not born alive or born with crippling developmental handicaps.

We are stewards of all-too-limited resources. We must balance our compassion with a sense of cost effective management and the national commission you recommend is an outstanding means to proceed.

Florida is State government, our 11 million people, the subcommittee, the full committee, and the Congress need this legislation. And we would hope that the Congress would do so without delay. Our Nation needs the direction of your bill to keep alive our hopes for the next generation.

Senator CHILES. We thank you very much for your statement. As I say, we will have your statement in full on the record, and we certainly look forward to continue working with you and the leadership that you have furnished.

Governor GRAHAM. Thank you very much.

Senator, at this time, I would like to introduce the director of maternal and child health services for our department of health and rehabilitative services, which is the social service agency for the State of Florida, Dr. Charles S. Mahan.

Dr. Mahan will introduce other Floridians who will speak to their particular experience in this vital issue.

Senator **Chiles**. We thank you. And you are very fortunate to have a man like Charlie Mahan who's been working in that. He's been educating me in the subject and telling me kind of where to go, in Fort Myers and Broward County and Duval County and Hillsborough County. And he has other lists of places, and he's beginning to get me somewhat educated into the problem.

Dr. Mahan, we are delighted to have you here.

Governor **Graham**. Thank you, sir.

[Governor Graham's prepared statement follows:]

PREPARED STATEMENT OF GOVERNOR GRAHAM

Good morning.

Florida welcomes the Subcommittee on Intergovernmental Relations to Florida and to Miami. I am grateful for the opportunity to present testimony on the unacceptable rate of infant mortality in America, particularly in the Southern states, and in Florida.

Let me begin, Senator Chiles, by commending you for introducing critically important legislation on this issue -- S. 1209, which would establish the National Commission to Prevent Infant Mortality.

Developing a coherent national policy on this issue is vital to the success of our efforts here in Florida, and across America.

The United States today has an intolerable level of infant mortality -- ranking us 17th among the industrialized nations. Regrettably, the South contains ten of the eleven states with the nation's highest infant mortality rates.

The quality of the care we give to our youngest, sickest and most vulnerable infants is a measure of the quality of our society. It is time for us to do better as a nation, and I commend you for leading the way.

As chairman of the Southern Governors Association, in July 1984 I appointed Governor Riley of South Carolina to lead a Regional Task Force on Infant Mortality. His testimony provides an excellent report on the work of that task force.

America must develop a commitment to reducing the incidence of infant death. Our nation's future, and Florida's future, will reflect the health of our babies and our children.

We know how to keep babies from dying. We know how to work with vulnerable children to improve their chances for a productive life. And we know that we must use what we know to help these children.

By developing strategies of prevention, we can ensure not only the healthy growth and development of our children, but also make wise use of the scarce resources available for health care.

We can save as much as ten dollars for every dollar invested in preventive prenatal care.

Today we have learned three vital things:

1. Who is at risk?
2. What are the costs?
3. and What are the solutions?

Answering the question of who is at risk, we know that

- Two-thirds of all infant deaths occur in the first month of life.
- The factor most commonly associated with infant death is low birth weight. Those babies who weign less than 5 pounds 8 ounces have a 40 times greater risk of dying in the fist moonth of life.
- Babies with low birth weight are more likely to suffer from physical and developmental handicaps.
- Babies born to teen-age mothers are twice as likely to die as babies born to mothers in their twenties.
- Infant deaths are also related to factors such as inadequate nutrition and sanitation, unsafe housing, and lack of infant care services.
- And the lack of prenatal care is a major factor. That lack is due in overwhelming proportions to the cost of that prenatal care.

We have also learned a great deal about the costs:

- A baby weighing less than 3 pounds, 5 ounces requires the high-cost, high-tech care of a perinatal intensive care unit -- at a cost of $20,000 to $100,000.
- Nationally, 25 per cent of the low-birth-weight babies will require special education or long-term care. For each child in need, the cost will range from $300,000 to $400,000.
- By contrast, comprehensive prenatal care costs approximately $350 per pregnancy, not including labor and delivery. We could save approximately $10 in health care costs for every dollar invested in prenatal care.

The state of Florida's Department of Health and Rehabilitative Services estimates that our state could save $25.8 million annually by investing in quality prenatal and post-partum care. For a significant fraction of babies now at risk, such care would save society the cost of neonatal intensive care, the cost of long-term institutional care, and the cost of special education.

- There is no formula by which we can calculate the impact upon the quality of the lives we would save.

And we have begun in Florida to find some solutions to the problem. Many federal programs can be combined creatively with state funds to improve access to prenatal and infant health care. Such programs include Medicaid, particularly its Early and Periodic Screening, Diagnosis and Treatment program; the supplemental food program for Women, Infants and Children, known as WIC; and national Maternal and Child Health programs.

Programs can be strengthened by increasing eligibility to more women and children, expanding the scope of services, and making those services more widely available.

And states can create new programs, enlisting the aid of local governments, private sector groups, and volunteers.

We are proud of what we have achieved in Florida -- and yet, even with the solid results we have achieved, every 48 minutes a low-birth-weight baby is born, and every five hours, an infant dies before its first birthday.

This is unacceptable.

To combat this critical problem, Florida's Department of Health and Rehabilitative Services has implemented a network of Improved Pregnancy Outcome programs, primary care programs, and perinatal intensive care units.

These programs have been credited with reducing Florida's infant mortality rate from 12.8 deaths per 1,000 live births in 1983 to 10.9 per 1,000 in 1984. It is our goal to reduce them to below 10 per 1,000 by the end of this decade.

The Florida Legislature deserves credit for its response to the problem. It has appropriated millions of dollars in additional revenue to establish Improved Pregnancy Outcome Programs, Primary Care Programs, and Perinatal Intensive Care Units.

Particular note should be made of one significant component of our Improved Pregnancy Outcome programs. We are the first state in America to implement a statewide Preterm Birth Provention project, training more than 1,500 health professionals around the state.

We identify women in early pregnancy who are likely to have preterm deliveries. We provide them an intensive counseling and intervention program, weekly checkups, and referral to drug treatment when needed to prevent preterm labor.

The Improved Pregnancy Outcome Program is designed to get more women into care early in their pregnancy. We have implemented aggressive outreach programs to provide access to those most in need -- particularly those in our rural and inner-city areas, which are our traditional "pockets of poverty," and the zones of highest infant mortality.

Our efforts have not gone unrecognized. The Department of Health and Rehabilitative Services has received a National Achievement Award from the U.S. Department of Health and Human Services. The overwhelming success of this program is attributable to the cooperation and significant involvement of the Florida March of Dimes, the Healthy Mothers, Healthy Babies Coalition, and the University of Florida Department of Obstetrics and Gynecology.

Our Improved Pregnancy Outcome Program works because it is flexible. The result is higher quality care, healthier mothers and babies, and lower costs to society.

Statewide, our network of Perinatal Intensive Care Units has produced similar results. These units have saved our state millions of dollars -- and more important, they have saved children's lives.

Follow-up examinations have established that the children who have been treated in these clinics have a 9 per cent impairment rate, and a 6 per cent developmental delay rate -- compared to 25 per cent who would have been disabled if these centers had not been available.

While we are dealing effectively with the problems of our children, we must recognize that we are dealing with them too late.

Child abuse, family dissolutions, teenage pregnancy, homelessness and the other gnawing social problems continue to destroy the future of too many of our children.

We must work over the long term to develop cost-effective strategies -- through the Department of Health and Rehabilitative Services in cooperation with the Healthy Mothers, Healthy Babies Coalition, through the Governor's Constituency for Children, through the Legislature, the Congress, and in public-private partnerships -- to find our future not in coping with crisis, but through planning intelligently for our common future.

Congressional leadership and assistance would be especially helpful in the area of high malpractice insurance costs for physicians, nurse midwives and other practitioners. These high costs amount to a barrier -- a barrier between service providers and the low-income patients who desperately need their services.

One critical element of our strategy must be to deal with the issue of adolescent pregnancy -- literally, children having children.

To a teenage mother in Florida:

- Every 35 minutes, a child is born.
- Every four hours, a low-birth weight baby is born.
- Every 16 and a half hours a permanently disabled child is born.

In 1983, 15,532 babies were born to children 18 years old and under -- including 1,996 babies born to girls age 15 and younger.

Because these mothers have a higher than normal rate of low-birth-rate babies...

because a fourth of these teenage mothers will become pregnant again in a year or less...

because these mothers and their babies are at the greatest risk...

it is time to address the problem of teenage pregnancy now.

In Florida, many communities have adopted local programs:

- In Orange County, a school health program has reduced pregnancies by nearly 300 per cent in four years.
- In Gainesville, the Alachua County Continuing Education for Teens -- or ACCEPT -- helped teenage mothers keep the rate of a second pregnancy to 7 per cent -- compared to 37 per cent in a control group.

In Tallahassee, the Teenage Parent School keeps teen mothers in the classroom, and provides instruction in maternal and infant nutrition.

- In St. Petersburg, a YMCA-sponsored program called Project H.E.L.P. provides social services and education to pregnant adolescents and their babies.
- And in Tampa, the Junior League is working to identify neighborhoods with the highest number of low-birth-weight babies, and to develop programs to work with the women who live there.

The Department of Health and Rehabilitative Services has formed a task force on teenage pregnancy, with this goal:

Reducing births to unmarried teenage mothers from 26.3 per cent of all live births today, to 16 per cent or less by the year 1990.

In short, we are working in many ways to reduce infant mortality. But as a nation, we must recognize that our approach is inconsistent, uncoordinated, and poorly understood.

Our bill, S. 1209, to establish the National Commission to Prevent Infant Mortality, is important to Florida and to America for three critical reasons:

1. Because there are gaps and shortcomings in our services, there is a need for comprehensive, coordinated national prevention strategies through an expanded federal role.
2. Because the population at risk is largely silent, vulnerable and isolated, a powerful and credible advocate -- such as your proposed national commission -- is required.
3. And because neonatal care costs our nation $1.5 billion a year, the work of your commission could save the nation millions of dollars a year.

We are stewards of all too limited resources. We must balance our compassion with a sense of cost-effective management, and the national commission you recommend is an outstanding means to proceed.

Florida's state government -- and our 11 million people -- strongly urge this subcommittee, the full committee and the Congress to adopt this legislation without delay.

Our nation needs the direction your bill will provide to keep alive our hopes for the next generation.

Thank you.

Dr. **Mahan**. Thank you, Senator Chiles, and Governor Graham. I just want to say a few short words about what we are doing in Florida and then introduce the folks that I think will be most interesting to the hearing.

Basically, Florida's looking ahead to the goals set by the Surgeon General of the United States, so that by 1990, we would bring our three areas, our infant mortality in the State, our low birth weight numbers in the State, and the number of people getting early prenatal care in the State, down to what the Surgeon General has said are acceptable levels for that period of time.

Speaking to each of those areas in infant mortality, I think we will meet the goal if we keep on the same track that we have at the present time.

We have award-winning prevention programs in place in the State, but our problem is that the State is growing so fast and we were already in a big hole in pregnancy and infant health services to begin with. It's going to be tough to get prevention going, and prevention effects don't show up for 1 year or 2 after they are offered.

I think that we will meet that goal not only for the prevention efforts that we put in, but also because for 10 years through children's medical services we've certainly had the best regionalized high-risk care program in the United States, and that's been a model for the rest of the States. So for various reasons, I think we will meet the infant mortality goal by 1990.

The low birth weight area, which is the main contributor to infant mortality, that's what we are now attacking. We were the first State to implement a statewide prevention program in preterm birth prevention. We started that in early 1984, and we just got the statistics back for that year, which Governor Graham revealed to you. We had one of our sharpest ever reductions in infant mortality for that year.

Now, that again is not only because of our pretrm birth prevention program, but it also helped that we established our neonatal intensive care program in Fort Myers, which is a very rapidly growing area.

We started a preterm birth prevention program that had been used in San Francisco and the country of France very successfully, and we added a couple of elements that we felt were necessary for Florida's population. One is an extremely strong nutrition component. We feel that nutrition in pregnancy is one of the most vital elements to getting a baby that weighs more than 5½ pounds. And we really stress that. We also stress that it is important for pregnant women in Florida because of the heat, to make sure they drink a lot of water during pregnancy, which is the most important nutritional element pregnant people can take in.

We also implemented ideas about stress management, because many of our moms that have low-birthweight babies are under severe stress. This, of course, affects not only poor women but middle-class and upper-middle-class working women who are under stress at the workplace.

Both the March of Dimes and our healthy mothers, healthy babies coalition in the State have been very interested in sending that message not only to low-income women but to women of all social and economic areas, because everybody has low-birthweight babies.

I do think that we will meet the Surgeon General's goals for low-birthweight that he has set. Now, meeting those goals in infant mortality and low-birthweight are nice, but as Governor Graham pointed out, it still puts us in a pitiful position even if we meet those in relation to other countries in the world, because while we are doing better over that time, they're going to keep doing better, too. And we still are going to be behind.

The third area that I mentioned was getting people in early for prenatal care. And I'm afraid that we'll not meet that goal by 1990.

Again, primarily because of our massive growth, cities like Miami that were already totally inundated with folks to take care of that couldn't afford private care, have had 200 or 250 thousand immigrants enter the city and just absolutely haven't been able to keep up with it in services. And even though the legislature and the Federal Government have helped out to some extent, nobody realized the tremendous strain on the resources that this would take.

And I can't emphasize enough that Florida's biggest problem in meeting these needs is just that we haven't dealt with growth in services the way we ought to.

Last, I would say that Florida is a massive State. It's a very big State with all different kinds of people living in it. We are the melting pot of the United States today, like New York City was 100 years ago. And we have rural areas, with many migrant workers living in them with some excellent migrant programs going, but many areas that aren't receiving any care at all. We are developing ways of sending people out to those areas in terms on a daily basis to help them get care.

In the urban areas, we talked about their overwhelming numbers; our facilities are overrun, we are moving to night clinics, weekend clinics, things that we haven't done in the past, to try to meet the needs there.

When we had 680 teenagers as we did last year, 14 and under, that had babies, we've got to be mighty concerned about our efforts in that direction.

Senator **Chiles**. Absolutely.

Dr. **Mahan**. And we haven't mentioned very much about family planning, but we're making concerted efforts in that area, to especially identify and help the woman at high risk of having a bad outcome of pregnancy so that we will put our resources where people need it the most.

If there are no questions, I'd like to introduce the rest of the folks on the agenda, and I think that we will do that in the order that they're on my agenda, at least if that's all right.

Senator **Chiles**. That will be fine.

Dr. **Mahan**. First I'd like to introduce Gyla Wise, the State health coordinator for the Redland Christian Migrant Association, and she will introduce the folks that she has brought with her.

Mr. **Wise**. Good morning, Senator.

Senator **Chiles**. Good morning, Gyla. We are delighted to have you here.

TESTIMONY OF GYLA WISE, STATE HEALTH COORDINATOR, REDLAND CHRISTIAN MIGRANT ASSOCIATION, ACCOMPANIED BY CARMAN RODRIGUEZ; MARGARET CAMPBELL, BROWARD IMPROVED PREGNANCY OUTCOME, ACCOMPANIED BY ROUMAINE (DEBBIE) ST. ROSE; JESSIE TRICE, ECONOMIC OPPORTUNITY FAMILY HEALTH CENTER, ACCOMPANIED BY BELINDA AND TONYA BERRY

Ms. WISE. With the time constraints that we have, let me just introduce, quickly, Mrs. Carman Rodriguez, and her son, Javier. Javier was born with spina bifida, a defect in his spinal cord. RCMA has been serving him in our Special Effort Handicapped Program for the past 2½ years.

Carman's story is pretty typical of that seen by many migrant mothers as they travel up and down the stream.

Since Javier is being noisy, I will hold him and let Carman tell her story.

Senator CHILES. I think Javier wants to testify a little bit himself. I think maybe he's going to be a politician here. He sees that microphone.

Carman, we are delighted to have you here with your son, and we will have your testimony.

Mrs. RODRIGUEZ. Thank you. I am a little bit nervous and all. It's my first time.

Senator CHILES. Just don't worry about that and just tell us your story.

Mrs. RODRIGUEZ. OK. I am a migrant worker, and we travel from State to State. At the time that I have Javier I didn't get any prenatal care, because the reason was like in Bradenton, a short time of season, it's only 1 month.

The clinics were there, but I didn't go because, like I said, it was only a month. So we moved down to North Carolina to the State, a little town, was close to the Simpson County. So I started to go there, to the clinic, but it was too far to go, and when I got there, when I found out where it was, they told me that I couldn't go into the clinic because it was a different county. So they sent me back to Simpson County, and when I got back to Simpson County, they told me I had to go to a different clinic. So, actually, I was going back and forth.

So I gave up and I didn't go to no clinic at all.

Senator CHILES. But you tried to get to these clinics?

Mrs. RODRIGUEZ. I tried to.

Senator CHILES. You knew something about the clinics?

Mrs. RODRIGUEZ. I knew that the clinics were there.

Senator CHILES. You had care before, prenatal care there?

Mrs. RODRIGUEZ. Well, not in the State of North Carolina, no.

Senator CHILES. In some of your other pregnancies?

Mrs. RODRIGUEZ. Yes, in some of my other pregnancies. I tried to get prenatal care for Javier, because I couldn't get into the clinics, because I got shuffled back and forth. So I gave up. By the time I got into West Virginia, I was 5 months pregnant at the time, and the clinic was far. There were social workers there that would try to help us and there were two more ladies to help us that were pregnant at the time I was.

Like I say, I had five more children besides Javier. It was hard for me to have babysitters to take care of them so I would be able to get prenatal care.

Senator CHILES. And you were working during this time?

Mrs. RODRIGUEZ. Yes, I was.

Senator CHILES. Trying to take care of your five children?

Mrs. RODRIGUEZ. Right. I work and then I try to take care of my children and I was tryng to get prenatal care at the time, too. So I gave up on that. So when I came back to the State of Florida, I came to my home base here, is in Homestead.

So we came back to Homestead. I went into a clinic, I made an appointment. I started getting prenatal care in Homestead, but they never told me that Javier was going to be born with birth defects. So they just check your blood type and all that, and wait and all the procedures, what they do.

Senator CHILES. Did you notice anything unusual about your pregnancy?

Mrs. RODRIGUEZ. At the time that I was in Virginia, I did notice something was going on, because Javier didn't move at all.

Senator CHILES. That was different from your other pregnancies?

Mrs. RODRIGUEZ. It was different from my other pregnancies that I had.

Senator CHILES. But you didn't have anybody to talk to about that until you noticed that you didn't feel this early movement?

Mrs. RODRIGUEZ. No, I did not. I didn't have any movement at all until I went into labor with Javier.

So when I had Javier they told me he was born with spina bifida. And I got scared. And they did ask me whether I had any illness on my husband's side or on my side of the family. Well, I told them, no, you know, but they told me—I asked him why was Javier born that way, here in Jackson. They told me that one out of 2,000 mothers, there's a baby born with a birth defect. And, I'm—unfortunately it was born one of mine.

Senator CHILES. But you had no sonogram or no——

Mrs. RODRIGUEZ. No. They' didn't do no sonogram, no ultrasounds, nothing at all, because at the time, like I am saying, I went to the clinic. They didn't suspect that Javier was going to be born with a birth defect. So they didn't do anything.

Senator CHILES. Now, he had spina bifida? Now, tell me what kind of operations he's had since then and what——

Mrs. RODRIGUEZ. Well, he was born on February 6. He had—spinal was open the same day that he was born.

Senator CHILES. The spine was opened?

Mr. RODRIGUEZ. Yes. They closed it up. When he as 1 month old, they had surgery done on him.

Senator CHILES. Tell us what that means.

Mrs. RODRIGUEZ. Well, a shunt means that it goes inside, the liquid from the spine went to his head. His brain, they show me a picture, you know, his brain is circled with the spinal water around his head, and that's the—it's to prevent having brain damage.

See, the fluid goes into his body system.

Senator CHILES. Now, allows the fluid to drain and he would have had the——

Mrs. **Rodriguez**. Right. If he wouldn't have had that surgery done, his head would be growing like a tumor and it would bust.

Senator **Chiles**. Water on the brain?

Mrs. **Rodriguez**. Right. But, so far, since he had this shot, he hasn't had any seizure, any problems with it. His spine never had to be replaced at all, and when he was a year he had a hernia done, too. He was born with a hernia. So they did a hernia operation, and that was—that happened out of Sarasota, because I went to Sarasota.

See, I was here and doctors told me he couldn't move. So they re—you know, they postponed the surgery so I went to Sarasota, and I started working there.

We had problems there, because we didn't have a place to stay at all. So I went to—the lady told me that they had a day-care center, our same program that they had here in Homestead. So I went there, and the lady there, the director, she helped me out. There was a nurse there, too. She sent me to medical children's service, that they had there in Sarasota.

They did surgery on Javier, and usually his doctors, orthopedic doctor is Dr. Bello (phonetic). He's a very good doctor, and when I don't understand something, he takes time to explain to me what's going on with him. He tells me step by step what they're going to do, what they're planning to do. And he has a doctor. His name is Gary (phonetic). He's the doctor that's in charge of giving muscle exercises on his legs. And he does very good job.

He tells me what to do.

Senator **Chiles**. What you are telling me is, you have had some very good care out there?

Mrs. **Rodriguez**. Yes.

Senator **Chiles**. But you've also had great difficulty in some places in getting any kind of care?

Mrs. **Rodriguez**. Getting care at the time, it was hard for me. But since Javier was born, everybody's been helping me out, the day-care centers. He's in medical children's services program. He has his visits there. And so far, when he was born, they told me he wouldn't be able to move around, his head's going to be lame, he wouldn't be able to sit up, he wouldn't be able to move his legs. And he does the opposite, you know, the other way.

Senator **Chiles**. Well, it's wonderful what we medically can do.

Mrs. **Rodriguez**. Right.

And I do suggest that all the ladies, the migrant workers, you know—usually there's some ladies that they don't go to the clinics because there's a lot of waiting around, and usually they take the little boys with them, because they don't have nobody to take care of them. And they stay there all day, sometimes they do, sometimes they don't. And——

Senator **Chiles**. Did I hear that they—in one place, they call your name one time and if you had gone out or taken your kids to the restroom, you would miss it for the day?

Mrs. **Rodriguez**. Right. You missed your call and then you had to wait around until the—they decided to call you back again.

So—and there's some ladies that actually don't go to the clinic at all. They go when they're going into labor. They go and fill out the papers for the clinic, and that's it.

Senator CHILES. So a number of migrant ladies just give up and don't——

Mrs. RODRIGUEZ. They do give up.

Senator CHILES. But you were seeking that help at the time?

Mrs. RODRIGUEZ. Yes, I was. I was seeking help at the time I was in early pregnancy with Javier.

Like I say, we travel from season to season.

Senator CHILES. Do you follow the harvest?

Mrs. RODRIGUEZ. Right.

Senator CHILES. So you go from Dade County up into the Bradenton area and then you go to——

Mrs. RODRIGUEZ. South Carolina or North Carolina, and we go to West Virginia, and then from there we go to Ohio; and then from Ohio, if we decide to go to Texas, we go to Texas. If we don't want to go to Texas, we just come right back to Homestead. But all the migrants from here——

Senator CHILES. I understand you have the problem sometimes with the crew chiefs, where you were going——

Mrs. RODRIGUEZ. Yes, they do. Some of the crew leaders, they say, like this crew leader told us a lie when we go down to West Virginia. He said there were day-care centers, there were clinics close-by; they would have a lot of necessary things that we need. And they told them there was going to be a lot of work for my husband.

So we decided to go down there, but when we get there, there's nobody there. You know, there's no help at all. There was a lady that took a lot of effort to help us out, to show us where, and here and there, you know. But it's so much for just one person to do.

Senator CHILES. And my understanding is when you sort of get to that place, you don't have enough money to go somewhere else, so you have to stay and work, you can't——

Mrs. RODRIGUEZ. We have to stay there and work until we get enough money to travel back again. So that's how we do it.

And down in North Carolina, we went there, they promised us work for 6 months. And after 1 week we finished the whole crop because usually the crew leaders have about 80 to 100 hands; some of them. Some don't.

And you don't make an honest day's work. You don't even get—like if you are paying $3.35 an hour, you don't even make in an hour what we do. Sometimes we work—out of the whole week we work 1 day a week or 2 days. Maybe we even don't work at all the whole week.

We try looking for work, because a lot of people have a lot of families, more than I do. And we do try to look for work, but usually the crew leaders have all the people that they need.

Senator CHILES. Charles, can you tell us just quickly, had this been discovered earlier, what some of the things that might have been done?

Dr. MAHAN. There is some evidence that with early care through family planning, that when people are planning to get pregnant we'll start them on high-dose pregnancy vitamins before conception, and there's some evidence that you can prevent this problem by that method.

Now, if she had another pregnancy, we would certainly recommend that that be done before she gets pregnant, and hopefully it would prevent the bad outcome completely. Other than that, there are certain signs of spina bifida that can be picked up during pregnancy, if you are following people from an early time that would indicate to you that there's too much or too little fluid and that things weren't going quite right or the baby wasn't going quite the way it should be.

An ultrasound could be done. And very often this condition could be picked up with ultrasound and then the baby followed and careful plans made for delivery so that the delivery can take place in a center where the baby could receive optimum care.

Senator CHILES. They're telling me in Jacksonville that they've even been able to operate and do the shunts during the pregnancy itself in some instances.

Dr. MAHAN. Yes. That has been done. That wouldn't have been necessary in his case, would it?

Mrs. RODRIGUEZ. No.

Dr. MAHAN. But it might have been. I mean, it's a possibility.

And that's one of the bad things about not picking it up.

But, basically, you plan to make sure that she had the baby in a center that could immediately take care of the baby, because you don't know—spina bifidas are all different as to how they affect the baby, and you don't really know exactly what kind of care he's going to need until he's born.

Senator CHILES. Carmen, we thank you very much for your testimony, and we look forward to seeing Javier when he's——

Mrs. RODRIGUEZ. Big. Grown up. OK. Thank you, sir.

Dr. MAHAN. Margaret Campbell of the Broward Improved Pregnancy Outcome Program. We'll introduce the next——

Senator CHILES. Margaret, we are delighted to have here. You're already been trying to educate me a little bit as we visited in Broward, and we thank you for being here.

Would you introduce the witness?

Ms. CAMPBELL. Thank you. This is Roumaine St. Rose.

Senator CHILES. Tell us, what do you do, Margaret? What is your role?

Ms. CAMPBELL. Right now I am considered a community health nurse with the Broward County Health Department. And I have been working with the Improved Pregnancy Outcome Program since we stated it, oh, I'd say around April 1982.

And in talking about numbers and growing numbers of needs for prenatal care, I can really see an increase. But when I first started in the program, I was the only nurse that was going out to do the home visits, as well as to work the clinic with the doctor. Along with the doctor and myself was a health educator, a nutritionist, and a social worker. And I really see now, finally, I'm having to have other nurses to help go out and open clients' records for services.

We were seeing somewhere in the neighborhood or averaging somewhere around 125 new prenatal patients per quarter during the first 1 and 2 years. And the numbers have grown since then. So it's basically trying to find or target the high-risk area and trying to provide early prenatal care for those patients.

Senator CHILES. Now, in your program, my understanding is you have a wealth of services: ultrasound, sonograms, nutritional care, all of these, the screening, and the visits to the doctor, along with classes. All of that is provided once you get somewhere into your program; is that true?

Ms. CAMPBELL. Yes, we do. Well, a lot of our health education is done on the initial visit as well as we do provide health education for the clients in the clinic.

Not only do we have a health educator but we also have a social worker that they can see throughout their visit, if there's a need to. And we also have a nutritionist to help tell the patients about some of the foods that are needed in pregnancy.

And this has really helped.

We do have the maternity high-risk program which is a part of the Broward County Health Department, and it really has helped to provide good prenatal care to patients at high risk in pregnancy. We really have seen some positive outcome with the program.

Senator CHILES. And then after the pregenancy you continue some followup and you try to explain to the mother what birth control devices are available and how she can regulate further—future pregnancies, if she wishes to do so?

Ms. CAMPBELL. Yes; they do come in for family planning within 6 weeks. And they will also continue that service with us should they desire to do so. The prenatal client might also receive care at our maternity high-risk clinic, and Roumaine will tell you a little bit about how she came into the program and what was done for her.

Senator CHILES. Once you identify someone as being a high-risk——

Ms. CAMPBELL. Right.

Senator CHILES. Now, with all the increases you are talking about, you are serving, I think you still have told me that there's still an awful lot of people our there that you are not seeing that don't know of the services or are not in the program for some reason, that would be eligible.

Ms. CAMPBELL. Right. We try to do a lot of case finding. A lot of times we go to the home to serve one pregnant client and there is a cousin or someone else that's there that's pregnant. So we often ask, Are you receiving and prenatal care? And we try to pass the word on and try to take a referral and get them into the clinic for prenatal health services.

But it is still a problem in trying to get to them or to relay the information to them that we do have these programs available.

And the reasons we're not able to bet to all of them is because the numbers are so large, so to provide the care that a lot of the clients need becomes difficult and again a lot of it is because of the growing numbers.

Senator CHILES. Now, Debbie, you got into this high-risk program. Why did not get into that?

Mrs. ST. ROSE. Well, first of all, I went down to the clinic and I had a pregnancy test done. And they had told me that I was pregnant.

Well, I was very—well, I was happy in a way, but I was also scared, because I had just lost a stillborn about 1½ years ago. And all I wanted was an abortion at first.

And they had told me about the high-risk program and how they would want me to get into the high-risk program.

So I had went and I applied, and they had helped me and I had a little girl.

Well, I had lost eight children.

Senator CHILES. Eight children?

Mrs. ST. ROSE. I had five miscarriages and I had two stillborn. And I had tubal pregnancies, so I got a partial hysterectomy. And I wasn't supposed to be able to get pregnant as easy as I did.

Senator CHILES. So after eight you were ready to just give up, and when you went there you were thinking about an abortion?

Mrs. ST. ROSE. Right. Because I was very scared, because I had just lost a little girl 1½ years ago. And I was scared to go through it, because I was—I went into like a mentally—I was really nervous and upset for a long time.

But, then I tried their program out, and they——

Senator CHILES. They explained to you that they had this high-risk program that they thought they could do something for you?

Mrs. ST. ROSE. Right.

Senator CHILES. And you decided that you would go through with it?

Mrs. ST. ROSE. Yes. I decided I would go through with it, and I went to the high-risk program once a week. They had asked me if I was—if any pains were involved, and stuff like that.

And I had told them exactly what was going on once a week. And they made sure I got my vitamins and stuff.

And here she is.

Senator CHILES. Hallelujah. that's wonderful.

And so you had a normal baby at the end; how long did you carry here?

Mrs. ST. ROSE. 9½ months.

Senator CHILES. After eight? That's wonderful.

Well, you did watch what you ate, what you are eating, and did exactly what they told you?

Mrs. ST. ROSE. Yes, I did.

Senator CHILES. And I trust you didn't smoke or drink?

Mrs. ST. ROSE. I didn't smoke, I didn't drink. I didn't do nothing. No. I went to parties and drank milk.

Senator CHILES. Wonderful.

Well, so you are a believer and with the proper care we can alleviate a lot of these problems that you have had earlier on with that other eight.

Mrs. ST. ROSE. Because I went to private doctors. Don't get me wrong, I had went to a private doctor, a very expensive doctor. But they have not seemed to help me none. Not as good as they did, you know.

I had like if I would have a pain, they would take me right up there and get me a sonogram test done or, you know, get some kind of testing done to make sure the baby was all right.

But my private doctor didn't even do as much as they did, and I'm very glad for them. And if it wasn't for the high-risk program, I don't think Martina would be sitting on my lap today.

Senator CHILES. That's wonderful.

Well, you wouldn't be afraid if necessary to have another pregnancy?

Mrs. St. Rose. I'd like to go through it again, as long as the high-risk program is willing to take me.

Senator Chiles. So what you are saying to us is that even when you were paying for the doctors before, that there's a problem out here to see that they're doing the proper screening and that they're giving the proper education, and so it's——

Mrs. St. Rose. I had went—I was 7½ months, and I was having a lot of pain for like 2 months before that. And I had said: I don't feel good, I'm in pain.

And the doctor kept telling me it was growing pains: It's growing pains.

And I said: Well, you know, I guess you know what you are talking about. I'm paying you good money.

But it wasn't growing pains. The baby was slowly pulling away from my placenta. And she became a stillborn at 7½ months. I——

Senator Chiles. And you were trying to say something's going on down there, "I know something's wrong?"

Mrs. St. Rose. Right. Even the day I went into the hospital, I thought I was in labor. I went in and I told the doctor, I said: I'm in labor.

And he said: No, you're not. There's nothing wrong with you. I examined you.

And I said: Well, I'm not leaving this hospital until you either take the baby from me or I have the baby.

And 2 hours later I started hemorrhaging.

If they would have took my baby 2 hours before I started hemorrhaging, she'd be alive, because she was 7 pounds 10 ounces at 7 months.

Senator Chiles. Well, now, we appreciate very much your coming today, and we are delighted that you have this lovely little girl and for what the high-risk program has done that for you. And that's just a great example to us that if we can provide this kind of care out there that there will be a lot of happy mothers like you that we can take care of and that you won't have to go through eight miscarriages and bad pregnancies.

Mrs. St. Rose. It's hard when you go through all that.

Senator Chiles. And they also won't have to think about abortions either, because they will know that they can have a healthy child.

Mrs. St. Rose. Because I'll try it again, some day.

Senator Chiles. Wonderful. Thank you very much for your testimony. Thank you.

Dr. Mahan. I think just a comment on that, we bandy around the term high-risk quite a bit. But we are often meaning two things. We call people high-risk in the preterm birth program, and they'd just be normal people that had a lot of factors that make them more likely, like Mrs. St. Rose, to have a bad-outcome pregnancy or premature baby. And we don't send them into any special place. They stay in the clinic they're in. They're just seen under a protocol where they're seen more often, get nutritional help and things like that.

So it's not an extra expense. It's just more visits and more time.

Now, if she, indeed, went into preterm labor and needed to have drugs, then she'd be referred to Dr. Ausbon's program in children's medicine services, and be taken over for her care there, which is the super-high-risk type of situation.

Also, on the migrant testimony, you have to realize, and I think you do, that Florida and Texas have received the migrant workers for the best part of the year, whereas New York and the Northern States get them for a very short period of the year.

We tried to point this out to the folks in Washington so they will keep that in mind when they're doling out their resources to migrant programs. The heaviest burden falls on Florida and Texas.

Senator CHILES. So, even though they might count migrant workers, is what you're saying, if they sort of counted the number of months that they're here, they would be in Florida or Texas many more months than they would be stopping in these other States?

Dr. MAHAN. Yes. We found that to be true many years ago in the WIC Program.

The next person on the program is Mrs. Jessie Trice, who is with the Economic Opportunity Family Health Clinic of Liberty City here in Miami, and has been a hard worker for many years in this particular area.

Senator CHILES. Ms. Trice, we are just delighted to have you with us, because we know something about the good work that you are doing, and we are glad you can be with us today. And you can introduce your persons that you have brought.

Ms. TRICE. Well, first of all, let me say we have two of our teenagers here, both of them are nervous. But I think you will find that they will be able to respond to any questions and share the experiences.

But I just want to really say how grateful we all are with your interest in helping us to reduce the infant mortality rate. And I won't take up a lot of your time to talk about the adolescent family life demonstration.

Senator CHILES. Well, I want you to tell us a little bit about it, because you are having some good success now.

Ms. TRICE. OK. I think you know that we are from the Liberty City area in Miami. And that is an area with an infant mortality rate of 24. In essence, what happens to the mothers——

Senator CHILES. Now, that's figure that I want people to sort of get the grasp of. It's 24 per 1,000.

Ms. TRICE. Live births.

Senator CHILES. And 24 deaths. And our State average is 10.9. So we are talking about something that is more than twice as much.

So if you happen to be a mother in Liberty City, the chances of your child reaching its first birthday are less than 50 percent of what they would be under our State average, which is not good.

Ms. TRICE. That's very true.

However, I think you heard from Dr. Mahan, we know that we've made a lot of progress. But, again——

Senator CHILES. Tell me what the average is for the people that you have been able to get under your net, so to speak, or under your wing.

Ms. TRICE. The average—I'm sorry, I don't quite understand.

Senator CHILES. My understanding is, in your program, you don't have that 24 deaths per 1,000 live births. Tell me what that figure is.

Ms. TRICE. OK. The center, itself, has about, 1,100 deliveries a year. And out of these deliveries, last year we had lost two infants, which is really good.

Now, in looking at our adolescent program where we have had 300 pregnant teenagers to go through, we have not had any deaths within that program itself.

Senator CHILES. And, normally, Charles, the figures nationally, as well as Florida, show that the highest incident is usually among the teenage pregnancies of low birth weight and therefore the deaths that result.

Dr. MAHAN. Right.

Senator CHILES. So that's very, very startling.

Ms. TRICE. Now, we believe, Senator, that our program could be replicated. We believe that it is cost effective, and we think that we can help a lot more teenagers.

Senator CHILES. Tell me something about your average cost, what would that break down?

Ms. TRICE. OK. Well, you know, we have had the program for 3 years. We were able to get the Department of Health and Human Services to give us $85,000 the first year. The second year we received $60,000, and this year we received something in the area of less than that.

But, now, that is for counseling, followup, the educational services that we are providing for adolescents, because certainly family health center is a rather comprehensive health agency, and we have the—all of the other services that were already there.

So we were able to get a nurse practitioner. We have the obstetrician, we have counselors, and we have outreach, to help us with it.

In fact, one of the major factors that we found helping our young folks to really look at themselves in a different kind of a way, believe this themselves, and know that they can do whatever they want to do. We have provided a lot of sessions on nutrition. But, in addition to that, focusing on our several other factors that affect the total community and the total family; because I think we all know with our young folks when they become mothers or parents too young, oftentimes they drop out of school, and the reasons for that oftentimes is they don't have child care people to help them with child care, they are not old enough to have developed employable skills. And we work with them in all of those areas.

And I'm really very proud that many of our young help that we have had in our programs have not only had good outcomes for their pregnancy, but have remained in school and gotten into a training program. And we just hope that they will continue on that trend and become independent and be the good parents that we know they can be.

Senator CHILES. What have your results been in regard to sort of repeat pregnancies? I know that you are giving counseling and family planning and birth control.

Ms. TRICE. Out of the 300 girls that we have had in our program, we have had two repeat pregnancies, and we think that's really outstanding, because, I'm sure, Dr. Mahan, you will agree that once an adolescent gets pregnant usually you have just the boomerang effect, and the next year and the next year. But out of 300 we've only had like two.

Senator CHILES. So they've been able to sort of take control of their lives and start planning and doing something toward——

Ms. TRICE. Yes, they have.

And I think you know that the approach our program takes is a total family approach. The pregnant adolescent is certainly the focus but after talking to Dr. Mahan and all of the others when we had our reduction in funds, we decided that we needed to focus on the other adolescents or youngsters in a family that were not pregnant, with an objective of trying to see if we could provide health care, education, and information that would help those young people not to get pregnant.

Senator CHILES. Younger sisters and——

Ms. TRICE. And brothers.

And thus far, of those that we had, we haven't had any of them to get pregnant. However, you know, we know that our program is young, but we think for the few years, we are happy.

Senator CHILES. Well, you have had very dramatic results in your program, and that's such a dramatic plus.

I hate to raise it, but the other side of that is, you are only serving a small portion of the people in Liberty City where the need is.

How do we expand that program, and is it information we are getting out, is it lack of funds? What, you know, why are we only seeing this, you only dealing with this small segment? How do we get it expanded?

Ms. TRICE. We need more resources, Senator. There are many good programs within Dade County, not just ours. But as you heard Dr. Mahan say, within Dade County, the need for prenatal services and all other health services is just so dramatic, we just don't have facilities nor the persons to address the program.

Senator CHILES. We can't afford not to put these resources in, can we? You have had such dramatic results with only two repeat pregnancies out of 300 teenagers, goodness knows, that's going to be the most cost-efficient program in the world.

Ms. TRICE. I certainly believe that.

You know, I have been in preventive health care for the last 25 years, and it is my belief that we could increase the dollars all within the area of preventive health care, what we would see a dramatic reduction in the infant mortality rate, and we would save a lot of money. I really believe that.

I would hope, you know, that if there is any way that we can work with you or you do anything, that you could help us to get some more resources to further help us in our cause.

Senator CHILES. But even your resources have steadily come down from 85,000 to 60,000 to less than that?

Ms. TRICE. Right, In fact, I doubt very seriously after this year whether our Department of Health and Human Services will refund us at all or fund us, again. They told us from the outset that it was a 3-year demonstration project.

Senator CHILES. So it was a demonstration project?

Ms. TRICE. Yes. We would have to try to find funding for the continuation.

Senator CHILES. Have you been able to find——

Ms. TRICE. Well, we went to the United Way this year, and I am pleased to say they did give us $25,000, which would be a little bit of help. But it still wouldn't help us to reach anything like the numbers of adolescents that we could reach.

Senator CHILES. What kind of funds are you getting from the county?

Ms. TRICE. Currently we aren't getting any funds from Metro-Dade County. They provided us, though, with a great facility, and this kind of thing, but, no. Most of the funding that we get for health care comes from the Federal Government.

We have Medicaid and Medicare, and the patients pay. We do charge.

Senator CHILES. Many of these young people are eligible for Medicaid?

Ms. TRICE. Yes. But you know, that that funding is very meager, and it certainly does not cover the cost of the care that the young folks need.

Senator CHILES. Good.

Well, I'd like to hear from your young ladies.

Ms. TRICE. Oh, this is Belinda.

Belinda, do you want to tell the Senator about your experience and how old you are and—whatever you want to tell him.

BELINDA. Well——

Senator CHILES. You don't need to be nervous, Belinda. You may be helping us to try to solve a problem here. So we are delighted that you would come at this time.

BELINDA. Well, I am 16 years old and I got pregnant before I got in this program. I was referred to this program by my sister-in-law. Her name is Dijon.

Since I have been in this program I got a lot of prenatal care. They referred me to the WIC Program, and a lot of counseling about why we should stay in school.

Senator CHILES. So you stayed in school?

BELINDA. Yes. I am still in school, and I am working part time.

Senator CHILES. What are you doing to take care of yourself? You smoking?

BELINDA. No. I am taking vitamins.

Senator CHILES. You are?

BELINDA. Eating the proper foods, trying to eat the proper foods.

Senator CHILES. The WIC Program is helping you get some nutrition?

BELINDA. Yes. Uh-huh.

Senator CHILES. You are also having counseling as you are gong there, about your future? Tell me what all that is composed of.

BELINDA. They're trying to to teach us to stay in school, and they're telling us to plan for the future, how we can take care of our kids and the plan for before the baby comes, to have babysitters, as we go to school, and try to finish school.

Senator CHILES. Well, do you feel better since you have been in the program?

You were pregnant before you went in the program. Do you feel like you got a better grasp on your life and where you are going, where you are heading now?

Belinda. Yes; because before I got in the program I was scared. I didn't know.

Ms. **Trice.** Maybe Tonya would want to. Our other young lady is Tonya.

Ms. **Berry.** Well, I stated the program last year with my first pregnancy, and I was pregnant before I got into the program. You know, they helped me out a lot, you know, things that I didn't know, you know, about taking care of the baby. You know, they helped me out with school and showing me things, you know, how to be a good mother. Now I am pregnant again, and, you know, I was going to a private doctor, you know. They would check me.

And then I was scared. There was no kind of, you know, helping me, telling me how to be a good mother, you know, and telling me about school or anything. So I went back to the adolescent program, you know, and they helped me out a lot, you know.

Senator **Chiles.** Are you still in school, Tonya?

Ms. **Berry.** Yes; I am going back to school.

Senator **Chiles.** Yes.

Now, you are having another pregnancy? Tell me what you think about that now.

Ms. **Berry.** I was upset at first, but it happened, you know. All I can do is go back to school and still do the things that I plan to do. It might be a little harder, but——

Senator **Chiles.** Did they try to tell you something about family planning at all before this?

Ms. **Berry.** Yes.

Senator **Chiles.** You didn't listen, then?

Ms. **Berry.** No. I started, and then my mother, you know, she didn't approve of teenagers with birth control pills. And it was difficult for me, you know. It was, you know—she didn't approve of it, you know: You shouldn't have been doing that in the first place.

You know, and it was difficult, you know. I had to hide from her, and it was just difficult, you know, too hard.

Senator **Chiles.** But you feel like the counseling has helped you, again, to get more control over your life?

Ms. **Berry.** My family, you know, when I got pregnant again, it was so hard. I was thinking about putting the baby up, not this baby, the second baby, up for adoption and, you know, they helped me in every—I mean, I didn't have any help at home, you know. And I could tell them anything, and they went out of their way, you know, to help me.

Ms. **Trice.** What about the next one, Tonya? What about another pregnancy?

Ms. **Berry.** No.

Ms. **Trice.** You still haven't been able to talk about your marriage?

Ms. **Berry.** Yeah. You know, well, I'm planning to get married to the baby's father. So this time I won't have to be in her house, you know, because she didn't approve of birth control pills.

Senator **Chiles.** Well, I congratulate you on that. That's wonderful.

But they also helped counsel your mother?

Ms. BERRY. Yeah. They talked to my mother, you know, and tried to get her to understand.

Senator CHILES. We thank you both. I know it's not easy for you young ladies to come here, but we appreciate your coming here, and I think it is an example of what your program is doing.

Certainly your figures are so startling, that 300 live births to 2 infant deaths, and two repeats.

Ms. TRICE. We just hope, Senator, that we can get some more resources so we can——

Senator CHILES. Well, we've got to. It's just, again, it just makes so much sense, we've got to. Your figures, again, show the cost effectiveness of this program. We've got to just get the county thinking and the State into thinking along the right lines, and the national Governments' doing its part to share. That's really what our Nation is all about, to find out what we are doing right out there, and we know that there are a lot of areas and a lot of States where programs are working, where they are demonstration projects. Now we've got to take the ones that have worked and see how we can put them together into some national plan, and so that the care and the counseling will be out there and, again, we've got to learn the ways to get people into this program, too.

Ms. TRICE. I guess one other thing that our First Lady said, that we might involve the community. We have been able to get a sorority and a fraternity to work with some of our adolescents. We hope we can get more of that, because what these community groups have been able to do with our young folks is to serve as role models and to help them.

Senator CHILES. They tell me some of the Miami Dolphins, and others, have actually gone out into some of the junior high schools and talked to the young people and talked to them about getting control of their lives and talked to the young men, as well; we have the ladies here today, but I am glad to hear you say we're talking about counseling young men, too, because that's just as important.

Ms. TRICE. Right. You can't do much good if you don't, and we do need to work harder, I think, and find other ways to reach more of our young men. But we have been able to reach some, and we are still working at that.

Senator CHILES. Their future is very much affected by this, as well.

Charlie, can you give us any more at this time?

Ms. TRICE. Thank you very much.

Senator CHILES. Thank you very much. And we look forward to calling on you——

Ms. TRICE. Any time.

Senator CHILES. As we go forward.

Ms. TRICE. Any time.

Dr. MAHAN. Thank you very much. Appreciate it.

[Ms. Trice's prepared statement follows:]

PREPARED STATEMENT OF JESSIE TRICE

My name is Jessie Trice, Executive Director of the Family Health Center, Inc. located at 5361 N.W. 22nd Avenue, Miami, Florida.

The Family Health Center, a federally funded, community health center has been providing care to residents of Liberty City and surrounding areas for over eighteen (18) years. The greatest demand for health care services in this community comes from women in their childbearing ages. These patients are usually seeking perinatal care.

Perinatal is the period preceding, during and after birth. It includes care for the infant through the first year of life. Last year Family Health Center provided health care to a total of 10,570 females in the childbearing age group. Of this total one-third or approximately 3,400 were adolescents. Family Health Center patients had a total of 986 deliveries during this same period.

The infant mortality rate in Liberty City is 24 compared to a countywide rate of 12.7. This high infant mortality rate when analyzed can be correlated to the high incidence of adolescent pregnancies and the lack of adequate prenatal care services. Liberty City has been designated a medically underserved area. There are not enough physicians located in this area to adequately serve the medical needs of the residents.

This high infant mortality rate and equally high teenage pregnancy rate prompted Family Health Center to write a proposal for the Adolescent Family Life Demonstration Project in 1982. This program was funded by the Office of Adolescent Pregnancy Program in October 1982.

The goals of the Adolescent Project are to improve the pregnancy outcome of teenagers by decreasing maternal and infant mortality; to significantly reduce the recidivism rate and to encourage a more positive psycho-social outcome for mothers, their male partners and their babies and families through counseling.

In addition to perinatal care the clients receive comprehensive health care services, i.e. nutrition counseling, dental care, pharmacy services and transportation.

It is known that teenagers cooperate with prenatal care better if they can see the same health care providers at each visit. The project has an Advanced Registered Nurse Practitioner who provides care up to the time that the teen is referred to the obstetrician. The ARNP provides examinations, education and counseling.

The program has two counselors who provide individual and group counseling. The counselors make home visits and try to include the father of the baby, parents and siblings of the pregnant teenager in the counseling session.

The adolescents are also involved in family planning counseling, a family life series of educational and counseling sessions on health related topics. Other group sessions include such topics as: communication skills, decision making techniques, alcohol/drug abuse and human sexuality.

Delivery arrangements are made with local hospitals for the participants. The program staff tracks the adolescent mother her delivery to help her make arrangements for pediatric care, child care, financial assistance and education. Referrals are made to appropriate community agencies.

During the three year period that this project has been operating in the Liberty City area it has served a total of 286 participants; 193 pregnant and 93 non pregnant adolescents. Seventeen percent of the participants are under age of 15 years and 83% are between 15 to 17 years of age. The non pregnant adolescents were all served during the first year as part of the prevention component of the project. The funding source discontinued this component after one year. Of the 93 non pregnant participants only two became pregnant.

The 193 pregnant adolescents on a whole had good pregnancy outcomes. The majority (192) were full term births; with only one premature delivery. There were only five cesarean sections; all others (97%) were normal vaginal deliveries. One adolescent had a still birth during her first trimester, after only one visit to the project. Only three participants have had repeat pregnancies (one dropped out of the program and the other two missed numerous appointments).

The project has been able to get a total of 69 male partners involved. Family members - parents, siblings and extended members have participated overwhelmingly for a total of 335 participants. Eighty percent of the participants have remained in school. Of the 20% that dropped out many returned after the birth of the infant. Due to lack of child care several were unable to return to school.

These statistics prove that this project is successful!

Due to inadequate funding the program must limit the number of participants that it serves. However, there are many other adolescents in the community who could be enrolled in the project.

Teenage pregnancies have become an epidemic in the Liberty City area. The overall teenage pregnancy rate for Dade County is 33 births per 1,000 females. In Liberty City the rate is more than doubled, 81 births per 1,000 females. The pregnant adolescent is categorized as high risk. She is medically, nutritionally, socially and economically in danger.

Pregnant teenagers out number the capability of the providers for health care in the area. They contribute more than their share of low birth weight infants and are likely to have premature babies. Frequently, the pregnant teen will interrupt or discontinue her education.

Teenagers seeking health care services encounter many obstacles, including inadequate health care facilities, long waiting period for medical appointments, lack of transportation and insufficient income.

The high incidence of teenage pregnancy compounds the problems of Liberty City which is already wrought with many socio-economic problems. These problems include: substandard and shortage of housing, high unemployment, high crime and multiple health problems.

The expansion of the Adolescent Family Demonstration Project is direly needed to help reduce the teenage pregnancy rate in this community. By reducing this rate the high infant mortality rate could be reduced drastically.

Dr. MAHAN. I think the only thing that bears repeating, every time we talk about infant mortality, and I know this is not news to you, but it is that the reason infant mortality is a major health indicator is because of what it represents. It doesn't just represent babies in graves. But it represents whenever your infant mortality is high, that means the number of damaged children is high, also, so that children that are mentally retarded or have problems in school, almost all of that can be traced back to——

Senator CHILES. And all of the continuing medical problems and medical costs that they have.

Dr. MAHAN. Absolutely.

So if you reduce your infant mortality, you reduce tremendously—you just generally start off with a healthier population.

Senator CHILES. I think the statistics are also startling that show the result over the last 10 years, much of the reduction in infant mortality, was based on our medical and technical skills that we have developed. Part of the result is that it's given us a population with health defects. In order words, we save the child, but we did not prevent all of the health defects. So we created some problems while we were solving some problems.

On the other hand, if we prevented pregnancy or if we had, through the counseling and screening and nutrition, having normal pregnancy, then we don't create those future problems.

But from the medical side, we may just be creating some future problems for ourselves as we are proficient in saving life.

Well, I think I want to thank all of our participants. I think hearing from our Governors, our States, our legislators, of what is being done, tells us that the opportunity is there. Then hearing from some of these mothers and some of the providers that are right on the firing line, also shows us what the responsibilities are that we have, and maybe challenges very much before us. We will probably try to hold at least one other hearing in Washington, and I am not sure, hopefully we are not going to have to hold a series of hearings after that. Maybe we can then see about marking up our bill.

Any advice that any of you have that have been here and testified today or just been in attendance, we are open, because we are trying to provide the best way that we can put forward this Commission and its mandate. We hope that the Commission will only work for not over a year and report back to the Congress with an attack plan so that we can move forward there.

With that, we will recess our hearing until further cause this year.

Thank you.

[Whereupon, at 11:15 a.m., the subcommittee adjourned subject to the call of the Chair.]

PREVENTING INFANT MORTALITY: INTERGOVERNMENTAL DIMENSIONS OF A NATIONAL PROBLEM

FRIDAY, OCTOBER 11, 1985

U.S. Senate,
Committee on the Budget,
Pensacola, FL.

The committee met, pursuant to notice, at 9 a.m., in the Old Escambia Courthouse, Pensacola, FL, Hon. Lawton Chiles presiding.

Present: Senator Chiles.

Staff present: Dennis Beal, press secretary.

OPENING STATEMENT OF SENATOR CHILES

Senator Chiles. Good morning. I thank you all for being here, and many of you for participating in our hearing this morning.

I am sorry to be a few minutes late. I have been flying since about 4 o'clock. We were in session last night till about 9:30, and I couldn't get out of Washington. I am delighted that we finished up. I was beginning to wonder whether I was going to get here at all.

This is the second actual hearing that we have held on infant mortality. We held one in Miami, and we will be holding other hearings in Washington.

It was very shocking for me to find out the United States was 17th in the world in infant mortality. That means if a baby is born in Singapore, Hong Kong, Japan, or Western Europe that baby has a better chance of celebrating its first birthday than a child born in the United States. When I think of the United States and every resource we have, every blessing that we have been given by the Almighty, and the idea that we have this kind of record with infants, I am ashamed. We can do better than that, and we know basically it's possible to do because we find a lot of communities have done better.

I want to compliment Escambia County and, really the panhandle of west Florida, because you are doing better, better than the State average, and in many instances better than the national average. And one reason we are here is to find out what you are doing right that makes your average better. One normally goes to places where things are bad, to investigate an issue like this, and we have been there. Now we want to know about what is working right.

And why are we doing that? Because the bill I am sponsoring to have a national commission on infant mortality is a means of trying to put together an action plan to see how we can improve these figures.

We basically know what the problem is. The problem is low-birth-weight babies. If a baby is born and he or she is under 2 pounds, the statistics strongly say that the low birth weight is the problem. We know that if we can prevent the birth-weight problem, we are dealing with a very large percentage of the infant mortality problem, since 60 to 70 percent of infant deaths are due to that.

Other answers include proper screening to get the prospective mothers in early, so we can get some kind of medical history on them. We know that if we find out if there are potential problems medical science is probably advanced enough to deal with those problems. Again, one of the reasons that you have a better record here is you have some programs doing that kind of proper screening.

What we are trying to put together is a panel that will help us create a national awareness and national support, so that we can come up with a plan of how we attack this problem. We do not need a plan to have the Federal Government pay a lot of dollars ineffectively.

In fact, I am not sure to what degree the Federal Government should be involved in the dollars. But the Federal Government can be a catalyst in trying to put together a plan for the Federal Government, and State and local governments, the private sector, the insurance companies and others, to deal with this problem on a timely basis. We don't need a long study, so we hope to do this in about 1 year once the commission is started. The commission would come back with an action plan.

I have been involved and will continue to be involved in the battle to reduce the Federal deficit, and much of that battle has to do with reducing Federal spending. Still, we have to remember that television ad where the mechanic says, "You can pay me now or you can pay me later," and that is exactly where we are in this issue. If we don't pay now and have some front-end expenditures to set up prenatal programs, set up the screening, set up teenage pregnancy prevention, then we are going to pay later.

And we see the terribly high cost of the neonatal facilities and the treatment of these children that are born under 2 pounds. We see that the cost doesn't end with trying to see that the baby lives rather than dies. It continues because most of those children are going to have permanent disabilities and permanent problems, which means that the cost will continue for their care from birth on. It means in many instances if we don't do something about the early teen pregnancies, again, we are going to have mothers that will drop out of school, not have any kind of training, not have any vocation, and, therefore, there will be problems and costs that we will have to pick up.

We see that a dollar investment in prenatal nutrition for the supplemental feeding program for Women, Infants and Children Program saves as much as $3 in short-term hospital costs. Studies shows that the Women, Infants and Children Feeding Program reduces the neonatal mortality by one-third and the incidents of low birth weight by perhaps as much as 40 percent; $1 to $3, that's a pretty good return on your money.

Prenatal care through programs like Maternal and Child Health and Community Public Health Services can save $3 for every $1 spent.

In Michigan a prenatal care project reduced the fetal and infant deaths from 300 per 1,000 to less than 50 per 1,000. And in Colorado prenatal care reduced prematurity by 13 percent.

In services for Medicaid recipients, that yields some $2 in lower health costs for every dollar spent. A $1 spent on childhood immunization, the shots for children, saves $10 in later medical costs.

You must compare these savings in dollars and lives to the fact that the annual cost of neonatal intensive care is $1.5 billion. It costs on the average of $20,000 to $150,000 to graduate a low-birthweight infant from neonatal intensive care. I point out again that graduation doesn't mean that you have a normal child at the end of that, it means that baby is going to live, but the baby still probably will have handicapping problems through the rest of his life.

We know that low birth weight is associated with severe and multiple handicaps for children, so the lifetime cost of medical care, special education, rehabilitation, is staggering compared to the cost of prevention. Today we are going to get a view of the cost of infant mortality in human and economic terms and the differences that can be made with preventive measures.

So I say to my colleagues that if you want to come at this problem from the humane angle and concerning the human suffering that you are going to avoid, you have got every reason to be for it. If you are saying, "Wait a minute, I don't want to be a bleeding heart, I want to know about the dollars," you have got every reason to be for it as well.

So it is that happy kind of time that Will Rogers described when he said, "When conscience and convenience cross, that is the happiest time." Here is something that we can do to eliminate some suffering and to put this country ahead and where it should be in regard to infant survival. At the same time, it is doing a favor for the taxpayers and for all of us in the long run.

Today we get a view of the cost of infant mortality in human and economic terms and the differences that can be made with preventive measures.

Mrs. Sally Wendt is with us, the assistant to the director of the Florida Maternal and Child Health Program, to give us an overview of the State's problem and what is being done to address it.

And we also have a panel representing the administration of Sacred Heart Hospital, as well as the obstetric, pediatric, and the neonatal intensive care units there.

The head of the Escambia County Health Department and a nurse midwife from the Pensacola Birthing Center will testify on the differences prenatal care can make to the health of the mothers and their babies.

And the Children's Home Society will be represented to discuss their special prevention programs for teens, who are particularly at risk.

Finally, we will have guests from Apalachicola, our rural area in the panhandle, that is particularly hard hit in terms of infant mortality.

With each panel of service provides will be clients and patients who have personal experience in these problems. I found in my travels around the State that those who have experienced the tragedy of high risk pregnancies, low-birth-weight babies and infant deaths are best able to describe the heart of the problem. It is my hope that their experience will add to the hearing record in such a way that the U.S. Congress will be compelled to address this urgent problem, and I thank all of them for coming here today and being willing to share their experiences with us.

Sally, Ms. Wendt, we are going to call on you, if you will be kind enough to give us an overview of the problem.

TESTIMONY OF SALLY WENDT, ASSISTANT TO THE DIRECTOR OF THE FLORIDA MATERNAL AND CHILD HEALTH PROGRAM

Ms. **Wendt**. Thank you, Senator

Historically, Florida has had a very, very high infant mortality rate, one of the highest in the Nation, but in the last few years we've noticed that there has been a drop in the rate, the infant mortality rate. And now in 1983, the statistics that we have show that the national rate is 10.6 percent, where Florida is now 10.9 percent, so we're getting close to the national rate. We haven't been close before, but we need to drop it even further.

Some of the reasons that we have been able to have an impact on our infant mortality rate is Florida in the 1970's set up a network of regional perinatal intensive care centers, like Sacred Heart Hospital here in Pensacola, and these hospitals were able to provide very good intensive care to babies, low-birth-weight babies, babies who had problems at birth, and also are able to provide care to pregnant women who have some very severe problems so that their outcome is better.

Now, that is very expensive, as you will hear, and we are also at that point treating the outcome of pregnancy. And recently, since 1980, in Florida we are now addressing the preventive aspect of our infant mortality problem through the improved pregnancy outcome programs. We have just been able in the last few years to go statewide with out improved pregnancy outcome programs, and this is through funding by the Federal Government and increased funding through our legislature. The legislature has increased funding every year, we are very fortunate in that respect.

Right now we have an improved pregnancy outcome project, we call them, offered through each county health department in 67 counties in Florida, and, hopefully, we will be able to address the infant mortality problem through preventive measures instead of addressing the outcome, the poor outcome, of not having any prenatal care, access to prenatal care. Florida has not had access to prenatal care prior to these improved pregnancy outcome programs.

When you compare the cost of providing prenatal care, preventive care, to these women of $1,000 to $1,500 total to the extreme cost of treating the outcome, the bad outcome——

Senator CHILES [interposing]. So you are talking about $1,000 to $1,500 as compared to $20,000 to $100,000, which would be the cost to graduate one of the babies?

Ms. WENDT. Right. That cost does not include the hospital cost. That is the prenatal care. And it's important you understand that, because that is a problem in Florida, the hospital care.

But the cost for the prenatal care, yes.

Senator CHILES. In many instances though, if there is prenatal care available we won't have the low birth weight?

Ms. WENDT. Right.

Senator CHILES. The mother will get the information about what kind of nutrition she should provide for herself?

Ms. WENDT. Right.

Senator CHILES. That she shouldn't smoke or she shouldn't drink, and how to care for herself, to avoid having a baby under 2 pounds?

Ms. WENDT. That's right. We provide very intensive patient education. We work with the WIC Program and the Family Planning Program in order to try to deal with this problem.

Senator CHILES. And if she can't provide that nutrition service for herself because of the financial means that she finds herself in, we will help get her into the women, infants and children feeding program and other services that could be available?

Ms. WENDT. Right. All women—we try to help women who are at the 150 percent poverty level, Federal poverty level, and all women in our IPO programs are eligible for WIC and nutrition services.

Senator CHILES. Again, we will find that the figures will bear out that those that are in that poverty level will be the highest statistics of the ones that might have the low-birth-weight child?

Ms. WENDT. That's exactly right.

Senator CHILES. Thank you, ma'am.

Then we will go to our first panel, and that will be from the Sacred Heart Hospital. We are going to have Mr. Bob Roth, the senior vice president of finance; Dr. Lou Stalnaker, director of obstetrics; Dr. Reed Bell, director of pediatrics; Mrs. Jo McAtee, head obstetric nurse; Mrs. Elizabeth Baker, a client; and Mrs. Aida White, a client.

TESTIMONY OF LOU STALNAKER, M.D., DIRECTOR OF OBSTETRICS, SACRED HEART HOSPITAL

Dr. STALNAKER. Senator, I represent the obstetrical component of the High Risk Prenatal Program for northwest Florida, and have had occasion to work over the past 10 years with exactly the benefits that you have enumerated in your initial remarks; namely the cost benefit ratio of early intervention in pregnancies, both high risk and those not designated necessarily at high risk.

We've had the experience of observing patients that were intervened early in the pregnancy, were entered into programs of continuing prenatal care and careful observation, have had exactly the benefits pointed out; namely the shorter hospital stay, the better outcome medically, both for the mother and for the infant.

And it's extremely difficult to quantitate the exact cost savings, namely to enumerate the number of times a patient, by having early intervention, was not admitted to a hospital. Those are tough numbers to derive. But, by the same token, I can tell you 10 years is a reasonable experience, and I have worked in it daily along with others, and I can assure you that the benefits of not admitting patients with complications it would be forecast to develop that by continued monitoring, careful nursing care, and good physician observation has deterred and absolutely subtracted those amounts of dollars which would have been vested, and the beneficial outcome for the quality of the product delivered and to the mother has been most rewarding for our services.

Senator CHILES. Well, Doctor, you all are doing something right here, and obviously the fact that you are in this position and providing the service certainly gives Escambia and your area here, and I am sure it is affecting Santa Rosa and further too, these lower numbers. It has to be cost effective, as well as effective in the human suffering scale as well.

TESTIMONY OF BOB ROTH, SENIOR VICE PRESIDENT OF FINANCE, SACRED HEART HOSPITAL

Mr. ROTH. My name is Bob Roth, and I am senior vice president for finance at Sacred Heart Hospital.

As previously pointed out, Sacred Heart Hospital is a member of the Regional Perinatal Intensive Care Center Program in the State of Florida. That program basically has 10 centers throughout the State and a number of affiliate centers. There is funding for the program provided by the State of Florida, and there is also funding that comes into the program through the Medicaid Program.

Basically, Sacred Heart serves a geographical area all the way from Pensacola to Tallahassee, FL. We serve approximately 550 neonates per year, and some 750 high-risk patients in our perinatal clinic.

The program is basically broke into three components. You have an obstetrical component, which is the prenatal care, and obstetrical delivery component for the high-risk patient; and then you have the neonatal and intensive care center component, which is the care for the low-birth-weight sick newborn; and there is a third component, which is the developmental evaluation component, which is a followup on those graduates, if you will, from the neonatal unit to determine the incidents of developmental disability.

I think the State program has figures which bear out that through prenatal care and the presence of a neonatal intensive care unit, the reduction in infant mortality and the reduction in developmental disabilities is significant, and that the State of Florida has a good program ongoing.

I guess our biggest concern from the standpoint of Sacred Heart Hospital is the availability of funding for such programs for the future. The State is not increasing funding and looking for methodologies to decrease funding, similar to what the Federal Government is, and the hospitals, in essence, are bearing a significant brunt. The related loses to this program for Sacred Heart Hospital, some $1,000,000 last year. And what our concern is is that this is a proven program, which is of definite medical benefit, and on a long-term basis is a cost reduction program, but we have concerns about the ability to continue the program in the future because of these reduced funding areas.

Senator CHILES. All right, sir.

Can you compare the dollar cost of treating a high-risk pregnancy with the expense of the neonatal care for low-birth-weight infants; can you give me anything about how much savings there is when low birth weight can be prevented through the accurate care of an at-risk mother?

Mr. ROTH. Well, there is a significant dollar savings that can occur. You are talking anywhere probably from $1,800 to $2,600 hospital costs. And there is also a physician component, but hospital costs for caring for an obstetrical high-risk patient and with a good outcome, that's the total cost that you are going to incur for that patient and the baby, somewhere between $1,800 and $2,600 from the hospital standpoint.

And as you have pointed out, the neonatal course on the other side, our average is running some—$14,000 per baby is what it's costing us to care for a neonatal baby at an average length of stay of somewhere around 18 days. There is a considerable difference.

And the real, true low-birth weight, below 1,500 gram babies, will run as high as $150,000 to $200,000 to care for one of those babies, so the front-end preventive aspect is definitely a cost benefit.

And I think the State has concentrated more on the neonatal component of the program than it has on the obstetrical component of the program, and I don't know whether that's been the wisest course of action.

Senator CHILES. Well, that's been our tendency in crisis medicine, not only here, but everything that we see. I think we are wishing up to that a little bit, that we spend a lot of time on the crisis part of it, and, or course, you have to. But if we would get ahead of the curve just a little bit, and spend a little more time and a few more dollars in prevention, we would be better off.

I think the State can be very proud of its neonatal facilities. I know they can. I have benefited from those facilities. My grandson, who is Lawton, IV, was a low-birth-weight baby born in a 5½-month pregnancy, and through the neonatal facilities at the University of Florida in Gainesville he was a survivor. And I am getting ready to go see him, and he has just celebrated his fourth birthday. But I know what those costs are too, and I know what the other end of that picture is.

How much does it cost, does Sacred Heart spend, on women who just show up at the emergency room to deliver; you have never seen them before, they never had any help before, they show up and they say, "I'm in labor."

Mr. ROTH. We are running at the present time somewhere between 25 and 40, if I remember correctly, patients per month who show up in our emergency room. Probably 15 to 20 of those have not had any prenatal care, the remainder have had some prenatal care but have not had a designated hospital for them, and your average deliveries are going to cost somewhere around $1,800 to $2,600 for that group of patients, so every month the hospital is spending $75,000 or $80,000 minimum in caring for that group. That group has shown an incidence of much higher low-birth-weight babies and stillborn babies——

Senator CHILES [interposing]. Can you give me any kind of statistics on that?

TESTIMONY OF JO McATEE, HEAD OBSTETRIC NURSE, SACRED HEART HOSPITAL

Ms. MCATEE. I have the numbers I would like for you to look at.

This is some information taken this year just from our delivery log at Sacred Heart. That is about the group of people that we feel are underserved at this point.

The people we are talking about in the first group, this red number right here, are ladies who came into our emergency room this year never having seen a physician at all. They received no prenatal care, no medical evaluation at all. Some of them were young women that did not even know they were pregnant until it was time to deliver the child.

What happened to these girls——

Senator CHILES [interposing]. Didn't know they were pregnant until the time to deliver?

Ms. MCATEE. Yes.

Senator CHILES. So a lot of that could be premature delivery too?

Ms. MCATEE. Yes; remember that we are talking about a problem that happens to 11, 12, 13, and 14-year-old girls in our State.

Senator CHILES. I had the same feeling that the audience did, sort of a titter went through the crowd, how could that be, but when you are telling me now we are talking about 11 and 12-year-olds——

Ms. MCATEE. We're very much talking about babies having babies in our State.

What happens to these girls is that 6 percent of the babies, Scared Heart only, died, they were stillborn——

Senator CHILES [interposing]. I think it would be helpful, Jo, if you would stand up with that, and if you would pick up that hand mike, then our audience can see that as well.

Ms. MCATEE. The figures that we are talking about in this red column are the ladies that had no prenatal care whatsoever. Of those ladies this year at Sacred Heart between January and yesterday, 6 percent of the babies were stillborn, there was nothing we could do for those babies; low birth weight accounted for 20 percent of the babies that they had; premature rate, the baby is born before 36 weeks, were 37 percent of those infants.

Maternal complications, and by that I mean those complications that were life threatening to the mother, things like toxemia, hemorrhage, two of these ladies, in fact, went from labor and delivery to the intensive care unit at the hospital. One of them had a bill that was well over a $100,000.

In the second group I looked at another group of ladies who I also feel are underserved, but they did have some prenatal care. Some of these ladies were fortunate enough to qualify for the IPOP Program after it came to our community. They had between one and five prenatal visits. Certainly not optimum, but they had some care.

Senator CHILES. Now, what would the range of cost be for that, one to five visits?

Ms. McAtee. That would depend on the particular unit being used. If they were served in a clinic, their total fee for prenatal care could be something like $750. These ladies probably paid whatever they could, and went to a physician maybe for $25 a visit.

Senator Chiles. So roughly maybe $25 a visit, so that is $125; only $125, in other words, and the figures improved that drastically?

Ms. McAtee. They improved very dramatically.

Two percent of their babies, instead of 6 percent, were stillborn; 11 percent were low birth weight; 3 percent were premature; and 5 percent of the mothers had serious complications.

I think if we look at the perinatal statistics through the State of girls what were served in prenatal clinics at a center, you will be even more impressed by those. I can tell you only from Sacred Heart that last year the girls who were cared for in our clinic, 9 percent of their babies went to the intensive care unit. This year so far 8 percent of those babies have gone to the neonatal unit. So there is a lot of improvement we can see.

Senator Chiles. So what you are saying is if you had a third chart that showed those that had been in the program from its start and then followed through, their numbers would be totally different from these?

Ms. McAtee. They certainly would.

Senator Chiles. They would be improved?

Ms. McAtee. They would.

Senator Chiles. Way above even the green chart?

Ms. McAtee. Uh-huh [indicating affirmatively].

The complications and information is broken out in the yearly report of the State perinatal center that is published by our State, so that would be the place to look for that information.

Senator Chiles. Thank you.

Dr. Bell.

Ms. McAtee. I have one more thing I want to say.

Senator Chiles. Could you tell us briefly some of your experiences in pediatrics, and if you would introduce your patient for us?

TESTIMONY OF REED BELL, M.D., DIRECTOR OF PEDIATRICS, SACRED HEART HOSPITAL

Dr. Bell. I am going to let, if you would, Senator, Ms. McAtee do that. She has prepared a little further statement about followup care.

Senator Chiles. Fine.

Dr. Bell. But I would just add one statement of thanks. Thanks for your initiative. And also I would like to thank Sacred Heart Hospital for its tremendous commitment to child health care.

And, of course as pediatricians we look upon the newborn as our initial responsibility certainly, and we have seen a tremendous improvement in benefits for young people starting at infancy. And, of course, with the Development Evaluation Program this is very important, and some statistics will be given in that regard.

Of course, I think we have started the solution to the problem of low birth weight with our efforts in neonatal and intensive care and these followup programs, and certainly they should be maintained, but there is obviously a great need for improved prenatal care, so we want Dr. Stalnaker and them to get on with it, and we certainly appreciate your help.

Senator CHILES. I wonder if any of you could give me any kind of feeling for how many of the people are getting the information, or that we have in the network or in the program, as opposed to the numbers that are actually out there; in other words, how many are not getting served? What percentage do you think we are dealing with, from this area and any other areas?

Ms. MCATEE. The only numbers that I could really give you come from patients who were delivered at Sacred Heart, and in this year so far we have delivered 175 patients who did not have adequate service.

Senator CHILES. 175?

Ms. MCATEE. 175.

Senator CHILES. Is that number coming down every year or is it going up?

Ms. MCATEE. That number is going up every month.

Senator CHILES. It is going up every year?

Ms. MCATEE. Every month.

Ms. WENDT. Statewide we are only serving about 65 percent of the need of indigent women throughout the State. In no place are we serving 100 percent in prenatal care.

Senator CHILES. Jo, would you introduce the clients?

Ms. MCATEE. I would like for you to meet Elizabeth Baker. Elizabeth received care in the perinatal clinic, and she would like to tell you her story, just very informally what her experience was like.

Senator CHILES. Elizabeth, we thank you very much for coming. We are delighted to have you as a witness.

TESTIMONY OF ELIZABETH BAKER, A CLIENT

Ms. BAKER. For me this is my third pregnancy. I had two premature deliveries in which both of the babies died. And I went to the perinatal clinic and I received information about nutrition——

Senator CHILES [interposing]. In those two earlier pregnancies where you lost your baby, had you bad——

Ms. BAKER [interposing]. I only received one visit with each one of those pregnancies.

With her I went to the doctor every week, and I received information about nutrition, things I should do to prevent me from going into labor early, and I had a good outcome with the perinatal clinic.

Senator CHILES. You brought that great outcome. Will you introduce the outcome to us?

Ms. BAKER. This is Shanoltra.

Ms. MCATEE. Shanoltra is 2 weeks old.

Senator CHILES. Wonderful. Now, you went to a full term in this delivery?

Ms. BAKER. Uh-huh [indicating affirmatively].

Senator CHILES. Didn't have any complications?

Ms. BAKER. No complications.

Senator CHILES. Got a very healthy baby?

Ms. BAKER. Got a very healthy baby.

Senator CHILES. That is a great improvement over the terrible situation you had with the first two.

And you took care of yourself, and they taught you what to do, and how to treat yourself?

Ms. BAKER. Yes.

Senator CHILES. I trust you didn't smoke?

Ms. BAKER. No, I didn't smoke.

Senator CHILES. Didn't drink?

Ms. BAKER. Didn't drink.

Senator CHILES. Wonderful.

Ms. WENDT. Where did you get your prenatal care?

Ms. BAKER. At Sacred Heart perinatal clinic.

Senator CHILES. How did you find out and get into the services here?

Ms. BAKER. At first I went to the OB Clinic, which is located on Palafox, and since I was considered a high-risk patient, because I had two premature deliveries, they recommended me to come to the perinatal clinic.

Senator CHILES. So they just did a medical screen of your history?

Ms. BAKER. Uh-huh [indicating affirmatively].

Senator CHILES. They said you need some help, and they referred you then to Sacred Heart?

Ms. BAKER. Yes.

Senator CHILES. Well, that was a good day for you.

Why were you not able to get care in the first and second cases; did you not know about it?

Ms. BAKER. At the time, I was 17, and I didn't have—my financial situation wasn't that I could afford to go to the doctor to get help.

And then when I did apply for Medicaid, I had to wait for my Medicaid card to come, and by the time I got my Medicaid card I had delivered the baby.

Senator CHILES. So the redtape of trying to get that help when you didn't have the financial wherewithal got you into that situation?

Ms. BAKER. Yes.

Senator CHILES. We thank you very much.

Jo, are you going to introduce Ms. White for us?

Ms. MCATEE. Yes, Senator. This is Aida White. She has her son with her, obviously a very fine boy, and she would like to tell you her story too.

Senator CHILES. All right.

Thank you very much for coming Ms. White.

TESTIMONY OF AIDA WHITE, A CLIENT

Ms. WHITE. Thank you, sir, very much for your time.

And I want to thank all who helped me at Sacred Heart Hospital.

I had surgery, I had infertility surgery, because we couldn't have a baby before. We've been waiting for 5 years.

Then after I get pregnant, my husband, he was in the service, and he got out of the service because he had GI bill and he want to go to college.

Then we was going to doctor—I was 7 months pregnant and we was going to doctor, then we find out there is no way we can afford it, because they were asking for at least between $3,300 and $3,400. And——

Senator CHILES [interposing]. That was a deposit before you could go to the hospital?

Ms. WHITE. Oh, yes, sir. There is no way they will agree to have the payment, and we find out there is no way we can do it.

Then we find doctor who said, "OK, I'll take care of you, but you have to pay my fee before the baby born, then you can make the hospital payment," which was $2,200. And I have 90 percent chance to have C-section, and if I have C-section I have to pay double.

So we get to the point——

Senator CHILES [interposing]. That's a Cesarean?

Ms. WHITE. Yes, sir; and we try to find hospital can take me. Nobody will agree, because I was 7 months pregnant. They all wanted the whole fee.

So I come home, and we didn't know what to do. The only thing we can figure out, have the baby at home in a last minute emergency. Then I say my prayer, and I sit on the phone, and I call every hospital I could.

Then God answered my prayers, and I get answer from Sacred Heart Hospital that if I get in touch with perinatal clinic they will see how they could help me.

Well, I was more than lucky, because they only asked me—they take to look at the financial we have, and then they only charge us—and I'm glad we did, because it's not only I needed C-section, they find out that I had blood disease, and the baby was—I was 37 weeks pregnant. If they don't take the baby out, something, of course, can happen to me, plus might affect the baby with brain damage. They operate, and I had healthy baby, and they put me on program. I want to thank them all, and everything OK.

Senator CHILES. You got somebody else here who wants to testify.

Ms. WHITE. I want to mention one thing.

I went to the doctor, I went to him, and we were explained the surgery I have is very, very sensitive surgery. If I don't have good care, I will lose the baby, and I wouldn't be able to have another baby. So he know all the situation, and they never run a blood test on me. All what he did was checkup, and they charge me two visit $95.

And all what I pay for the baby and for myself and C-section and the blood and everything, all it cost us was $332.

Senator CHILES. Out of your pocket?

Ms. WHITE. Yes, sir; but the program make it up to me, because they give me all the nutrition my baby needs free.

Senator CHILES. And your son has no problems now?

Ms. WHITE. No, sir; in fact, we went to the doctor last month. He's 7 months old now, and he was 6 months old when we took him to the doctor, and he said if we have hundred baby in this clinic, he'd beat all of them.

Senator CHILES. That's wonderful. And you think you had this happy outcome because you did get some care, and they did diagnose that you had this blood disorder?

Ms. WHITE. Yes, sir. They save both our life, they save my life and the baby life, and this is for sure, because, like I said, if we decide—we get to the point that we didn't have nowhere to go. And, like I said, I was high risk. Even the doctor who did the infertility surgery on me, he said there's 90 percent—when I get pregnant, he said, "There's 90 percent you are going to lose the baby." He said, "But we'll be OK. You'll have another pregnancy if you have the right care." And this was our main concern, but we couldn't afford it before.

Senator CHILES. Well, we thank you very, very much.

Ms. WHITE. Thank you very much.

Senator CHILES. And I want to thank our Sacred Heart panel. You have given us some information why this county is faring better, and we are delighted to have that.

Dr. Bell, we thank you for your testimony.

Our next panel will be with the Escambia County Health Department, and Dr. Robert Wilson, the director of the department; Ms. Carol Frazier, nurse midwife from the Pensacola Birthing Center; Mrs. Marion Ford, the superintendent of nurses of the Escambia County Health Department; Ms. Kimberly Fussner is a client; and Ms. Lisa Clark is a client.

Dr. Wilson, do you want to lead off for us?

TESTIMONY OF ROBERT WILSON, M.D., DIRECTOR, ESCAMBIA COUNTY HEALTH DEPARTMENT

Dr. WILSON. Thank you, Senator.

It's a real honor for me to be here representing the aspects of health care that I consider extremely important in the United States today, public health.

If you would just in your mind consider an equation, public health equals prevention. There are multiple program in public health, and most of them, of course, have this particular direction.

There's an old person who was in public health in the State of Florida for many years, who recently passed away, by the name of Dr. T. Paul Haney, and he made the following statement, and I can say—and, in fact, I'd better say it because I have so many physician colleagues in the audience that it doesn't apply to them. But the statement that T. Paul Haney made years ago was that more lives are saved in public health in 5 minutes than most physicians save in a lifetime. As I said, it doesn't apply to any of the physicians in the audience.

There are many areas in public health that impinge on this problem that we are discussing today. The first area I would like to address is vital statistics. The recording of facts doesn't change anything, but we can follow the trends set by it.

In the area of prevention, one is testing, and I think Dr. Stalnaker alluded to this, the so-called null hypothesis. If a baby is born that is not low birth weight, then that baby is not a low-birth-weight statistic, so it's only over time as one has more and more not low-birth-weight babies that the trend is established, and you can see the results of all the preventive programs that we are involved with.

Senator, you already mentioned the women, infants and children's program, referred to as WIC. I don't think there is any question, certainly not in my mind, of the value of good nutrition for the prevention of low-birth-weight babies and for the reduction in infant mortality.

We have some 3,000 clients. It's a dynamic group, and I am not referring necessarily to their innate personalities. I'm referring to the fact that the group changes over time. It may also refer to their innate personalities as well. A dynamic group of around 3,000 clients, of which roughly one-third, slightly more than a third, are babies, neonates, about a third are infants and children, and then the other third, slightly less than a third, are women.

Another area that I think is important toward prevention of infant mortality, and infancy is defined as any child a year of age and under, is our infant and children's clinic that we have at the health department, where we render well baby care on a continuous basis, and also offer immunizations, and, as you mentioned, there is probably $1 savings of $10 for every $1 spent for that program.

And then family planning, which we feel is an important aspect in prevention, and I think I need to elaborate on that, but you don't get a lot of statistics if people are planning their family as they should.

And then finally, the improved pregnancy outcome program that is in this state——

Senator CHILES [interposing]. What you are saying is if you don't have a pregnancy, you don't have a low-birth-weight baby?

Dr. WILSON. You don't have any baby at all.

It doesn't render a statistic, but we think it's important because the spacing of babies from a financial standpoint, the spacing of babies just from the general standpoint, of the mother's nutrition, whether or not she is anemic and so forth, is very important, so I think that planning the babies is very important, and planning not to have babies when that comes up is also very important.

Finally, the improved pregnancy outcome program, which our county has been involved with, our local health units have been involved with, since 1983. And we have two of the products of our program that we brought with us, also, as you introduced, Mrs. Ford, who is the nursing supervisor in charge of the improved pregnancy outcome program, and seated on my right is Melissa Nelson.

Mrs. Nelson, who has been very helpful, has been in on the program from the very start and has collated some data. I think statistics generally are rather boring at times, but Missy has done such a fantastic job of putting them on these overheads that we would like to show them to you at this time to give you an idea of the population that we are serving. It will give you an idea of the numbers.

I don't choose to say anything negative about some of the other comments that were made. I recognize the fact that the cost of care in a hospital may be greater than the amount of money that is available to pay for the cost.

One of the things about improved pregnancy outcome, and we will show you these statistics of what is actually spent on babies, you see that cost there, the cost per delivery is $1,159.52. That includes hospitalization and prenatal care.

Now, of course, we are getting it at a reduced rate, and hospital costs and collections and so forth is quite different. And Mr. Roth and I have discussed this at length in the past, as well as other people, and hospitals have discussed it in the past.

But we are able to get good prenatal care for these girls. I would say we average about five visits per girl.

TESTIMONY OF MELISSA NELSON, ESCAMBIA COUNTY HEALTH DEPARTMENT

Ms. **Nelson**. You can get more than this. This was just phase 1. It's going up a little bit every year.

Dr. **Wilson**. I won't read those to you.

Can everybody see them reasonably well?

Why don't you give us phase 2 and phase 3?

Phase 2 was about a 6-month segment of time.

Ms. **Nelson**. Phase 2 was our first full year. Phase 1 we started in January 1984, and it was 6 months. This was our first full year on IPOP, and the average cost was running $1,353.78, and that included everything, lab work, everything.

Dr. **Wilson**. Now, there would be some question there about the percentages of white versus nonwhite and percentages of married versus nonmarried. Most of the nonmarried qualified for Medicaid.

Senator **Chiles**. This is interesting. I am looking at the figure, the lowest birth weight you had was 1 pound 1 ounce, and that was not a survivor. The lowest surviving birth weight was a 3 pound 4 ounce.

You did not have a survivor less than 3 pounds?

Ms. **Nelson**. We didn't have another one below that.

Senator **Chiles**. Oh, you didn't. Well, that's good.

Dr. **Wilson**. That's the lowest figure besides the 1 pound 1 ounce.

Senator **Chiles**. What you are showing now is of your clients, so this doesn't necessarily reflect what would be out there in total pregnancies?

Ms. **Nelson**. No. This is just the IPOP Program.

Senator **Chiles**. So this is showing basically your IPOP clients, the ones that went through your early pregnancy, tended to have birth weights 3 pounds and above?

Ms. **Nelson**. We have very few low birth weights, very few.

Senator **Chiles**. The highest is 9 pounds 9 ounces. You don't have an average?

Ms. **Nelson**. No, I sure don't.

The highest one on the first group was 11 pounds 14 ounces.

Dr. **Wilson**. We had that 1 pound 1 ouncer in this phase, that brought the average down. If you don't count that one, and the 3 pound 4 ouncer was also the smallest in the group besides the one that didn't make it, our average birth weight was around 7½ pounds, just a rough guess.

Senator **Chiles**. And the official for low birth weight is——

Dr. **Wilson** [interposing]. Five pounds and eight ounces.

Senator **Chiles**. Five pounds eight ounces, right.

Dr. **Wilson**. And taking that figure——

Senator **Chiles** [interposing]. The figure I used, 2 pounds, is the cutoff for very high incidence of either death or handicapping problems.

Dr. **Wilson**. Right, absolutely. We had very few problems with our 5½ pounders. They did quite well. In fact, 5½ pounds oftentimes, for statistical purposes, is considered low birth weight.

In point of fact, most of those are small for gestational age rather than being premature by gestational age.

Ms. **Nelson**. Out of 210 babies that we've had delivered, we've only had two deaths.

Senator **Chiles**. Out of 210?

Ms. **Nelson**. Deliveries, yes.

Ms. **Wendt**. What was the low surviving birth weight in your phase 1?

Ms. **Nelson**. The lowest birth weight we had was the 5 pound 10 ouncer, and all the babies made it that year. We've only had two deaths since we started.

Dr. **Wilson**. Quickly show them phase 3.

Ms. **Nelson**. We don't have the totals on it yet, because we just started it July 1, so we just have what the total we spent today. We haven't got an average yet, because we just started it.

Dr. **Wilson**. I think our figures are running pretty close to form.

Senator **Chiles**. Doctor, how do you get information about your program out; do you think everybody knows about it in this area?

Dr. **Wilson**. I think Melissa will attest to the fact that she gets the feeling that everybody knows about it.

I honestly don't think everybody does know about it, but I think word of mouth is one way of doing it, and it seems to be the most successful way that we have of letting people know about. I think most people know about it.

Senator **Chiles**. Well, do you think that you are serving the need that is out there?

Dr. **Wilson**. Well, we have a limited budget, and so what happens is, since we have a limited budget, we oftentimes have to turn people away as we get toward the end of a fiscal year. We have had some "carry over" from 1 fiscal year to another, which has caused a little bit of unrest, but so far we have been able to pull that off without too much difficulty. But because we have a fixed budget, then we cannot overspend the budget, and, therefore, we figure what the cost of each baby is going to be, therefore we know how many we can serve in a year.

So I think it goes without saying, I think Sally's figure of 65 percent may be a good one, and when you look at those figures of so-called drop ins at Sacred Heart, it may be less than that. It may be less than 65 percent of them being served.

Senator **Chiles**. You still know that there is some pregnant ladies showing up on the doorstep at the emergency room, so, obviously, you are not hitting them all.

It sounds like what you are saying, doctor, is if you had a few more dollars you could save a lot more dollars.

Dr. **Wilson**. Absolutely. Let me get on with it, because I have gotten a cryptic note from one of my former pediatric patients.

I would like to introduce to you Ms. Marion Ford, who is the nursing supervisor from the health unit that is in charge of that IPOP Program, and she, in turn, will introduce our guests.

TESTIMONY OF MARION FORD, SUPERINTENDENT OF NURSES, ESCAMBIA COUNTY HEALTH DEPARTMENT

Ms. **Ford**. I would just like to say that with the IPOP Program, this program was designed to—the target population was the population that was not being served by Medicaid, not considered high risk by high-risk standards, and certainly a population at risk standards, and certainly a population at risk because they could not afford the care. Young couples just getting married, or we have found in many instances it was husbands who had either lost their job, the job market was not very good 2 years ago, and in a job transition many times they had no insurance, they had no medical coverage for many, many reasons, and they had no alternative. People just don't have that kind of money in the economy today.

And as we know that our program certainly is not a panacea, but we felt it met the need at the time. When the hospital for low-income women closed in 1983, there was no care available for these ladies in this community, in this county.

So on January 1, 1984, we started with IPOP, rather late, because we had this built in in our county. So we're a little later getting started, because we didn't want to duplicate any services.

And I see probably one of the greatest things that this program has done, with a very limited budget, we cannot pay for any kind of really, really extravagant, extra care for these women. If they don't have a normal delivery, then they would certainly be having the bills to manage themselves. We can only pay for a "normal" delivery.

And since the high risk criteria is very high, a lot of these ladies, as local physicians have informed me many times, are not "low risk," they're medium risk also, so there are still some expenses that we are not able to cover for them.

And also with the budgeting, as has been explained to us, with probably maybe IPOP not covering any hospital stay next year, is why this year when we looked at our program and got our funding we are going more to the birthing center concept, where they'll go in that day and probably come out within a few hours after a normal delivery.

Senator **Chiles**. Just for me and the audience, tell me what a birthing center concept is. What does that mean?

Ms. **Ford**. I think Ms. Frazier probably can do that much better than I. She'll tell you.

Senator **Chiles**. All right.

TESTIMONY OF CAROL FRAZIER, NURSE MIDWIFE, PENSACOLA BIRTHING CENTER

Ms. **Frazier**. Well, a birthing center is a type of stepchild, actually. It doesn't belong anywhere. It's not a free clinic. It is not associated directly with any of the hospitals. We receive no Federal funds per se.

However, it does provide multifaceted care. Besides providing care for private paying patients, we can provide care for Medicaid as well as, as Mrs. Ford said, the improved pregnancy outcome clients. This goes anywhere from total care to prenatal care, delivery, family planning and whatnot. It also provides a site for delivery for other low risk clients being followed elsewhere.

Now, I stress low risk simply because, again, the birthing center is not a hospital, while everything——

Senator CHILES [interposing]. If it looks like that you are going to have a very normal pregnancy and delivery, then someone can go to the birthing center?

Ms. FRAZIER. That's correct.

Senator CHILES. I assume that is cheaper?

Ms. FRAZIER. It's much more reasonable all the way around.

Senator CHILES. The time of stay would be much——

Ms. FRAZIER [interposing]. The time of stay is, normally, approximately 8 to 14 hours after delivery.

Senator CHILES. Eight to fourteen hours?

Ms. FRAZIER. Yes, sir.

Senator CHILES. As opposed to a hospital stay would be——

Ms. FRAZIER [interposing]. Well, that varies anywhere from 24 hours to 3 days, depending on the pediatrician discharging the baby and so forth.

But I stress again the low-risk factor.

Senator CHILES. Right

Ms. FRAZIER. And this, again, comes back to patients receiving good prenatal care.

Senator CHILES. So this isn't a panacea for someone that may have complications?

Ms. FRAZIER. Absolutely not.

And the care at the birthing center is provided by nurse midwives with collaboration and backup by the obstetricians.

And, again, it all goes back to the clients receiving prenatal care, because if a patient does not receive prenatal care they are automatically disqualified.

Senator CHILES. So what you are saying is if IPOP and these other things have done their job, then the chances are that the mother could go to the birthing center, and that will be a savings to the family and it will also be a savings to the community if these people are indigent or don't have the wherewithal?

Ms. FRAZIER. That's right, that's exactly right.

Senator CHILES. And this is a part of what should be the total care available to the patient?

Ms. FRAZIER. Exactly.

Senator CHILES. And then you would have the neonatal clinic for the high risk, and you have a mid risk, and then you could have a low risk?

Ms. FRAZIER. That's right.

Ms. WENDT. You do link into the hospital though if you have a problem?

Ms. FRAZIER. Absolutely. We have an arrangement with the hospital where if we have problems at any time during delivery or afterwards the patient and/or baby are transferred to the hospital.

And the other thing that I think is of note is that the neonatologists from Sacred Heart Hospital check all our babies prior to discharge from the Birthing Center, so they are not just delivered and then sent home.

Senator **CHILES**. Now, at the birthing center, for those people that are recommended to go there, are your statistics as good that there is going to be a good outcome?

Ms. **FRAZIER**. Our statistics are excellent.

Senator **CHILES**. That the mother is not going to have complications?

Ms. **FRAZIER**. Statistics have proven that patients who have a perfectly normal prenatal course have a very, very low incidence of anything happening at the time of delivery or afterwards.

Senator **CHILES**. I know there is still some problem in that mothers aren't sure of a birthing center and say, "Well, I think I'll go to the hospital," whether they can afford it or not, because they think that care would be better.

Ms. **FRAZIER**. That's right. It's a new concept, and it's only slowly being accepted by the community, but it definitely is being accepted.

Senator **CHILES**. But the figures show, Doctor, that it is perfectly safe for those people that are recommendd to go here?

Dr. **WILSON**. Yes.

Ms. **FORD**. And I might add, Senator, that our ladies with the IPOP Program will be delivered by physicians. They will be delivered at the Birthing Center, but by physicians.

I would like to introduce at this time one of our clients, Mrs. Kimberly Fussner, and I think she will just be telling you about her circumstances and about the delivery of her son.

Senator **CHILES**. Thank you very much. I see you have got an active son there. What is his name?

TESTIMONY OF KIMBERLY FUSSNER, A CLIENT

Ms. **FUSSNER**. His name is Joshua Heath, we call him Heath, and he was born on April 29.

And I went through the IPOP Program, and I found out about it through a friend. I was a working lady, and I didn't have the financial funds to go to a regular physician and to the hospital and pay all the money. So one of my friends at work told me about the program, because she had gone through it before. And I went down and applied for it, and I received their help.

Senator **CHILES**. And tell me, do you think that the information that you got with the program helped you in your pregnancy and helped you have this fine young man?

Ms. **FUSSNER**. I'm positive it did, it really did.

Senator **CHILES**. Did they talk to you about what you should be eating and what your habits should be as far as smoking and how you should take care of yourself?

Ms. **FUSSNER**. And they also provided classes for baby care.

Senator **CHILES**. Classes for baby care?

Ms. **FUSSNER**. I don't think that they pay for them, but at Baptist Hospital you could go to the classes there.

Senator **CHILES**. Where did you deliver?

Ms. FUSSNER. At Baptist Hospital.

Dr. WILSON. Senator, let me just interject here that up until about, I guess, August we were contracting the services—we don't render prenatal care, or natal care for that matter, from the health unit itself. We contract the services. And up until about August of this year, it was done on a rotation basis in the community, those physicians who would take our clients.

Beginning about August, we began to utilize the services of the community OB-GYN Program that is tied up with primarily Sacred Heart. That's a residency service, they're under a lot of supervision. And we have begun to use the birthing center for the delivery.

Prior to that time they were delivered on a rotation basis. And as she mentioned, her baby was born at Baptist by the physician that we either picked for her or she picked herself.

Ms. FUSSNER. They chose it. It was on the rotation.

Senator CHILES. Kimberly, there was nothing in your history that showed that you might not have a normal pregnancy, and you just followed the directions?

Ms. FUSSNER. Right. I did have to have a Cesarean birth though. It was just one of these things, because all though my pregnancy everything was normal, everything was fine, and then something happened.

Senator CHILES. I see, but they were right on top of that?

Ms. FUSSNER. Right. There was no problem.

Ms. FORD. Thank you, Kimberly.

This is Mrs. Lisa Clark. This is her fine, fine son. And she would like to tell you about her circumstances.

TESTIMONY OF LISA CLARK, A CLIENT

Ms. CLARK. This is Shawn.

Your Honor, when I was 17, I lived in Biloxi, and I had a child 6 years before Shawn, and it was a stillborn. And the care that I got was from Medicaid, and the child died from circumstances unknown. They still don't know, and couldn't do an autopsy.

When I moved here, I had Shawn and—no, I didn't have Shawn. Wait a minute. I'm nervous.

I went to the Alpha Center and they told me about IPOP. Well, I called and they said that I could get on IPOP. And I received every month treatment with Shawn at the Sacred Heart clinic, at the perinatal clinic.

And at 6 months there became a problem. Shawn wasn't growing at the natural rate. Well, then he started growing too fast.

Well, they said, "Well, I don't know what's happening." So I had like five ultrasounds, and IPOP paid for three of them, which I couldn't have paid for them myself.

And I've got to say that everybody there was extremely good. They were——

Senator CHILES [interposing]. Ultrasound is this new way that we have of trying to take a look at Shawn while he is in the the womb and trying to determine what is going on there?

Ms. CLARK. Right. And they can see the baby full length, the baby is stretched out.

And he seemed normal, but yet he speeded up in growth at the last few months. And I came in delivery before the doctors thought I would, but it wasn't premature. Shawn was full grown. He was 9 months.

I went to the doctor on Monday, and the doctor said, "Wait, you can't go anywere." I was 5 centimeters dilated.

Well, I stayed, and I was 12 hours at home in labor. And I stayed with Shawn 30 hours in the hospital, because he was stubborn and didn't want to move down, but I got extremely good care there. Thought I was going to have a fit, because every 10 minutes someone was saying, "Are you OK?" But, I mean, it was like family. They're really good to you there. And Shawn was delivered fine.

And I've got to say that this pregnancy was a lot better than the other, because I did have IPOP. And after Shawn was born, I got on WIC, which is Women, Infants and Children. And they do have reduced fee at Sacred Heart, which if you can't afford it and you can't get on IPOP, they will help you and work with you so you can afford it.

Senator CHILES. What information did you get about smoking; were you a smoker before?

Ms. CLARK. Oh, right. I was smoking when I was pregnant with Shawn, and the doctor said, "Wait, don't smoke. Your baby could be hurt by that." And being I didn't want to hurt my baby, I listened. I didn't drink when I was pregnant. Drugs are way out of the way. You're not supposed to even do drugs as far as I'm concerned.

But with WIC, they provide Shawn's formula, and they provide things for the mother too. And they also—it's for people who are needy and can't afford to buy the formula, which formula is very expensive, and it's like $1.25 a can. And no mother almost, unless they are in that middle income, can afford that.

Senator CHILES. So without the Women Infants, and Children Program you would not be able to provide Shawn formula?

Ms. CLARK. No, I wouldn't be able to provide for Shawn, which they had been really good about it.

Senator CHILES. He looks like a pretty healthy young man.

Ms. CLARK. His is, thank goodness.

Senator CHILES. We thank you all very much.

Ms. CLARK. Thank you, Your Honor.

Senator CHILES. Our next panel will be with the Children's Home Society, and we have Ms. Peggy Walker, the director of the society; Ms. Patsy Hudson, a counselor; and they have a couple of clients, Ms. Julie Danforth and Ms. Lizette Jones.

Do you want to start off, Ms. Walker?

TESTIMONY OF PEGGY WALKER, DIRECTOR, CHILDREN'S HOME SOCIETY

Ms. WALKER. Yes; it's a pleasure to be here, and I'm sure, Senator, you are aware of Children's Home Society of Florida.

Senator CHILES. I am aware of the Children's Home Society. I used your catalog one time for my fourth child.

Ms. **Walker**. The Children's Home Society is a private nonsectarian, statewide agency in the State of Florida. It's been a child welfare agency for some 83 years now.

The divisions in the State have different programs according to the needs of their areas, and I must say that here in the western division, we have the largest teenage pregnancy program in the State.

I would like to think that we are a part of that difference, we are a part of that doing something right in northwest Florida.

Senator **Chiles** [interposing]. What you are saying is that teenage pregnancy program has something to do with the figures as to why Escambia County and this portion of the Panhandle has a lower infant mortality rate?

Ms. **Walker**. We would like to think so. I'm sure you are aware that statistically it is not possible to infer a direct relationship.

Senator **Chiles**. Absolutely.

Ms. **Walker**. I think that most of the audience is aware that 20 percent of all the babies born in the United States according to 1983 statistics were to unwed mothers, most of them being teen mothers. And teenagers comprise 17 percent of our population, but they deliver 30 percent of the low birth weight babies according to the National Center for Health Statistics.

Senator **Chiles**. That's a pretty strong figure.

Ms. **Walker**. Yes, it is.

Senator **Chiles**. Seventeen percent of the population, but 30 percent of the low-birth-weight babies?

Ms. **Walker**. Yes.

Senator **Chiles**. And that is a figure that is constant throughout the country, and really points out, as we are trying to deal with this problem, one of the major areas is to deal with teen pregnancies.

Ms. **Walker**. Right. And, of course, these low-birth-weight babies are three times more likely to have neurological and development handicaps than infants born of normal weight according to figures from the Florida Healthy Mothers, Healthy Babies Coalition.

Childhood mortality between the ages of 1 and 4, is 41 percent greater for children born to adolescent mothers than it is to children born to older mothers, and this is generally still the result of poor prenatal care. (Gorden, Seales, and Everly. The Sexual Adolescent. Duxbury Press, Massachusetts, 1979.)

Senator **Chiles**. Poor prenatal care?

Ms. **Walker**. Yes.

Senator **Chiles**. It is probably poor postnatal care as well, don't you think?

Ms. **Walker**. Yes, I would think so.

Senator **Chiles**. If they don't have the understanding or don't have the knowledge and don't know how to care or feed that child properly?

Ms. **Walker**. I agree.

In Florida, 25,000 to 30,000 teenagers become pregnant each year, and about half of those pregnancies are terminated in abortion. These figures come from the Florida Center for Children and Youth in Tallahassee.

In Escambia County, birth to teens, age 15 and under have risen from 45 in 1982 to 61 in 1983 to 88 in 1984. We are extremely concerned about this serious increase in the birth rate to the age 15 and under population.

In the panhandle, the percent of women under 19 to have babies in 1983 ranged from 25.2 percent in Santa Rosa County to 39 percent in Calhoun County.

The Children's Home Society program does not deny service to anyone. If we know of a pregnant teen, if one comes to our attention, they are served by our agency.

Ninety-seven percent of all teens, keep their babies. As you know, Children's Home Society has a large adoption program. We determined in 1978, that so many teens were keeping their babies that it was extremely important to develop a program specifically designed for girls who were keeping to help them be the best mothers they could be, to help them with the development of their children, to help them obtain the educational, medical and social services that they needed.

Some of the babies that are released to us are low-birth weight, and, of course, our agency does have the problem of finding homes, permanent homes, for those children. We not only place health infants, but we also place special needs infants.

If the Children's Home Society has worked with the young woman toward release for adoption, regardless of the condition of her child when born, we accept that child, even though it may be low-birth weight and have very serious physical and developmental problems.

We feel that the need is, No. 1, to prevent teen pregnancy, and we have worked very hard with our school system and in the Cyesis Center here. Cyesis is a Greek work meaning pregnancy. Our social workers work in the special classrooms with pregnant teens here. We certainly promote sex education, make many, many referrals to the health department family planning clinics, and urge utilization of the family planning clinics. The Children's Home Society provides very comprehensive social services and make referrals for educational, vocational, financial and educational services for all of our pregnant teens.

One of the things we are quite concerned about is followup on all female school dropouts. We do not have the staff, we do not have the funds, but we know that most girls drop out of school because they are pregnant. It would be very important—since our program serves less than half of the pregnant teens in our county, according to the county health department statistics—to follow up on every female dropout if we had the resources to do so.

Senator CHILES. What you are saying, less than half have any kind of follow up, and that the vast majority of them do drop out?

Ms. WALKER. Yes, they do.

Senator CHILES. I am trying to determine now what that means. Chances are if they drop out, that means they are not going to have any employment skills?

Ms. WALKER. True. That means we will not be able to follow them or their families in a comprehensive way. When a pregnant teen comes to our attention, we make home visits, work with the family, and help them get health care through all of the programs available—

Senator CHILES [interposing]. Once they have dropped out of school, aren't the statistics pretty strong that within 1 year, 1½ years, they will be pregnant again, and that will be a cycle that will repeat and repeat and repeat even though they have no skills, and so in effect they are going to be on welfare or something?

Ms. WALKER. Yes, at least 85 to 90 percent will require public assistance. Depending upon the study that you read, 35 to 45 percent of those girls will be pregnant again within one year.

Senator CHILES. But the studies would also show, would they not, that if you could keep that child in school, that mother, there will not be the incident of return pregnancies or not anywhere near on the frequency?

Ms. WALKER. I am not sure if it's a matter of keeping her in school or if it's a combination of things like keeping her in school, giving her family planning——

Senator CHILES [interposing]. Well, I think that's right, continuing to follow up, let's say, it is not just the school, but being able to continue to follow up with her.

Ms. WALKER. Right. For girls who have been through our program since 1978, we have maintained a pretty constant, just under 4 percent, repeat pregnancy rate within 1 year. We are quite proud of that, and obviously beat the national average.

Senator CHILES. Under 4 percent?

Ms. WALKER. Yes, sir.

Senator CHILES. And what would the general average be where there is a teen pregnancy, 35 to 40 percent?

Ms. WALKER. Thirty-five to forty percent, depending upon the different studies.

Senator CHILES. Within 1 year?

Ms. WALKER. Within 1 year.

Senator CHILES. So if we are, again, looking at cost effectiveness of the program, 4 percent as opposed to 35 or 40 percent, and, again, as we say, without the pregnancy there will not be the low-birth-weight child.

Ms. WALKER. That's right. Our program is comprehensive, and I think that the best people to tell you about it are the people who are in the field actually doing it. And I would like to introduce Patsy Hudson, who is our teen pregnancy coordinator for the Children's Home Society here in Pensacola.

Senator CHILES. Thank you, Ms. Hudson, for being here. We are delighted to have your testimony.

TESTIMONY OF PATSY HUDSON, COUNSELOR, CHILDREN'S HOME SOCIETY

Ms. HUDSON. I would like to tell you, Senator, a little bit about the services that we provide to individuals in this area.

We have three major areas that we work in as social workers, and the first is in prevention. We do presentations on the teen pregnancy problem as a crisis to families. Last year we presented to the life management skills classes and family living classes in the public school system. We also presented to civic, community and church groups, and to college students at Pensacola Junior College and the University of West Florida. Last year 4,987 people heard us talk about the problem of teen pregnancy.

The second area in which we work is in direct services. We do pregnancy testing, and pregnancy counseling. If a girl is pregnant, we assist in talking with both her parents and her boyfriend, if she request us to do so. The young lady is our client, but if she requests us to talk with her parents about the pregnancy and with the boyfriend, when we will work with the entire family concerning the alternatives that they see as appropriate for their situation. We use a film called teenage father to work with the father of the baby. We discuss rights and responsibilities with the father. We see education as a top priority, so we refer the girls to the Cyesis classes in the public school system.

Senator CHILES. Now, tell me what that means.

Ms. HUDSON. Cyesis is a Greek word that means pregnant.

These classes were started at Children's Home Society in 1978, quickly outgrew the conference room at Children's Home and moved into a local church, and then into the public school system.

The Cyesis Program offers classes in academic courses for graduation from high school. In addition, teens are taught prenatal care, nutrition, labor and delivery, infant care, and parenting skills by social workers from Children's Home Society. We have group counseling sessions regarding self-esteem, communication, personal goals and values, and family relationships.

The Cyesis curriculum and services are also presented to those girls who elect to remain in their own high school. The guidance counselors refer those girls to us, and then we contact them at home, and give them the same benefits of counseling and education on nutrition self-esteem, parenting skills, and labor and delivery.

We also assist with making arrangements for layette sets and other infant equipment. As Peggy has said, 97 percent of the girls keep their babies. We are working with them toward getting the things they need, as well as coordination of services with the health department, medical care, HRS services such as WIC and AFDC, and child support enforcement. Pregnant teens and their families are provided with emotional support as they progress through their pregnancy.

The third area of our program is the followup. We continue the open case for at least 6 weeks after delivery. At 6 months and at 1 year we make a home visit, at which time we do a Denver developmental screening, an immunization check, and a progress review with the mother. We discuss planning for education and birth control. Referrals regarding child care, health care and family planning are made during the home visits. We think that one of the main reasons our recidivism rate is 4 percent is because we do have this followup program.

We've heard a lot of statistics, and I would like to tell you just how many girls we served. In 1984 we had 341 teenage mothers in active caseloads. We had two social workers.

Senator CHILES. Did I get a figure that you think you are serving about half of what is out there?

Ms. WALKER. Yes.

Senator CHILES. So if you are serving 340, there is 700 or more?

Ms. WALKER. Yes; actually, 744 in Escambia County in 1984.

Ms. HUDSON. We think that our caseload should increase this year, because we are now working with the Sacred Heart perinatal clinic.

Senator CHILES. And, Ms. Walker, you did give me some figures that show that the incidents of teenage pregnancy are still very much on the increase?

Ms. WALKER. Yes, they are.

Senator CHILES. So we are not dealing with a constant here, we are dealing with something that is literally epidemic in the increase?

Ms. WALKER. Yes; unfortunately, the girls we work with are already pregnant. We try to reduce second pregnancies. Obviously there is a great need to be doing prevention work prior to that first pregnancy.

Ms. HUDSON. We are now working with the Sacred Heart perinatal high risk clinic, where all the girls who are under age 15 are eligible for medical services. We are also working with the OB-GYN clinic in screening those girls under age 18 about what they are doing educationally and about their plans for the baby.

We talked to 11 fathers regarding their involvement in the pregnancy.

We had 177 teenage females that were in the Cyesis Program last year.

We talked with 283 teenagers regarding the use of contraceptives.

Out of our 341, we had six premature infants that were under 38 weeks gestation, that were born with low birth weight, two infant deaths. We feel that it's not easy being a teenager, especially when you are pregnant. These girls can attest to that. We feel that our program is meeting some needs that reduce the number of low birth weights.

Senator CHILES. What steps could you take to reach more of this population, more of the girls that are out there?

Ms. WALKER. I think following up on all female school dropouts, and certainly doing more in the middle schools.

Senator CHILES. You say you are not able to. You just don't have the funds to follow up?

Ms. WALKER. We do not have the funds or the staff. You can see from the case loads and having at this point in time only two-and-a-half social workers, it isn't possible for us to do that.

Senator CHILES. Is the county through the public health service doing any follow up on school dropouts, do you know?

Ms. WALKER. I don't know.

Ms. HUDSON. I would like to introduce to you Lizette Jones and Julie Danforth. Lizette and Julie are waiting for you to ask them questions.

Senator CHILES. I want to thank you both for coming. I appreciate your coming and giving us a chance to talk to you. Unless we can talk to some teenagers too, we are not going to understand much about this problem, so you are performing a service for us.

Julie, just kind of tell me, if you will, how you found out about the program and what that has meant to you, and I would like you to tell us what your feelings were when you found out you were pregnant. Was that something you planned? Just tell me that to start with.

TESTIMONY OF JULIE DANFORTH, A CLIENT

Ms. **Danforth**. I was 15, just turned 15, when I found out I was pregnant. And I went and I talked to my counselor at my regular high school, and she referred me to Children's Home Society. And from Children's Home Society, I got all the information I needed on if I would like to keep my baby and alternatives to what I could do and help I could receive from them and other agencies in town they referred me. They referred me to the Cyesis Program, and from there I enrolled in that.

Senator **Chiles**. That is the program to allow you to stay in school while you are pregnant?

Ms. **Danforth**. Yes; I very much wanted to finish my education, and I wanted to keep my baby and raise my son, and they helped me do that by getting me enrolled and helping me out all through that time. They were explaining things on labor and delivery, and what would happen to me. And they were counseling my family, me and my baby's father at the same time. They were helping us all understand.

They referred me to Child Support Enforcement, and from there—I'm in that process now. They've really helped me in everything.

And Sacred Heart Hospital, I couldn't have done it without them.

Senator **Chiles**. So you are now trying to get support from the father?

Ms. **Danforth**. Yes, sir.

Senator **Chiles**. That hasn't been voluntarily forthcoming?

Ms. **Danforth**. No; I couldn't haven't got prenatal care if it wasn't for Sacred Heart Hospital, because I wouldn't have the financial help if it wasn't for them. But they were so kind, everybody there was just super nice. They were so willing to help, and they always just- ——

Senator **Chiles**. So you followed that advice; you didn't smoke during pregnancy?

Ms. **Danforth**. No, sir, I did not.

Senator **Chiles**. Didn't have anything to drink?

Ms. **Danforth**. No, sir.

Senator **Chiles**. Had a normal delivery?

Ms. **Danforth**. Yes; I gave birth to an 8-pound-6-ounce boy.

Senator **Chiles**. And tell me, if you can, what sort of problems or changes have occurred in your life as a result of being a 15-year-old mother or, I guess, you are 16 now?

Ms. **Danforth**. Yes, I'm 16 now.

Well, I would like to go back to my regular high school, but when you get pregnant and you have a baby it's amazing how much you grow up. You really start to get ahold of yourself and you realize the responsibility you are now going to have, you really grow up a lot.

And if I go back to my regular high school and you were back with your friend, and they say like after school let's go grab a hamburger or something and you tell them that you can't, you have got a son at home, a child at home that you are responsible for that you have to take care of, they're going to think you don't want to be with them, and they are going to shy away from you, they're going to think that you just don't want to be with them. And that's not true, because you have a responsibility that they don't have. So it's hard in some ways, but it's very rewarding in others.

Senator CHILES. What you are really telling me is that you gave up some of your childhood in a way?

Ms. DANFORTH. Yeah.

Senator CHILES. You had to become a mature adult a lot sooner than your years would have given you?

Ms. DANFORTH. Yes, sir.

Ms. WENDT. Before you got pregnant, Julie, did you have access to any kind of information about birth control?

Ms. DANFORTH. No, ma'am. I didn't know anything about sex, birth control. I didn't know anything, I honestly didn't.

Mr. WENDT. There is nothing offered at the school?

Ms. DANFORTH. No; it's not allowed in public schools on sex education or birth control, they're not allowed to talk about it.

Ms. WALKER. That's an important part of our program, because we are not employed by the school district, at least with girls who are already pregnant, we do some strong teaching in family planning and birth control methods, and, of course, make referrals to the county health department.

Senator CHILES. Julie, do you think the followup and the counseling that you have had now has helped you in that area?

Ms. DANFORTH. Yes, sir.

Senator CHILES. You have the knowledge now that you can kind of plan your future, is what I am saying?

Ms. DANFORTH. Yes, now I can plan other children later in my life.

Senator CHILES. So your planning is now more in your hands or your fate now is more in your hands?

Ms. DANFORTH. Yes, sir, thanks to Children's Home Society.

Senator CHILES. What would you say that we ought to be trying to do with the tremendous increase in teenage pregnancies that is out there; what advice would you give us?

Ms. DANFORTH. I think what would really help would be to have like a sex education class in middle school, because family planning—I mean family living, which is a senior course in high school, will talk about marriage and planning families later in life, but by the time a lot of teenagers reach 12th grade they've already gotten pregnant and have children, and that's too late, so really I think middle school would be the best time to have a sex education program, if it was allowed.

Senator CHILES. That has been a real dilemma for us in the schools and, really, how to deal with that in one of the thorniest problems, I guess, that we have.

We thank you very much.

Ms. WALKER. Lizette, perhaps you want to tell the Senator a little bit about your situation.

TESTIMONY OF LIZETTE JONES, A CLIENT

Ms. **Jones**. OK. I'm 8 months pregnant now and my baby is due in November, and I attend the Cyesis classes at Beggs, and I'm also a client at the perinatal clinic at Sacred Heart. And once I was referred to the clinic from the children's clinic at Sacred Heart, I was told about the Cyesis classes at Beggs. I didn't know much about them. And they enrolled me in the Cyesis classes, and I still attend the Cyesis classes.

Senator **Chiles**. So you are going to school right now in your eighth month and will be able to stay in school?

Ms. **Jones**. Yes; and once the baby is born and I can get child care, I will be back in school and continue my education until I can graduate. And I can go back to my regular school or whatever and just continue my education and get my high school diploma.

They have helped me a lot, because they come into the classes and they talk to us, and they counsel us on different things, and they just give us a lot of psychological support and emotional support if we need it, and other kinds.

They refer us to a lot of different places. I was referred to Alpha Center and to WIC and HRS. I wasn't referred to CSE, Child Support Enforcement, because I do have support. I was referred to anything that I might need.

Senator **Chiles**. So the prospective father of your child is going to do his part?

Ms. **Jones**. Yes.

Senator **Chiles**. Good.

Ms. **Jones**. So they made sure that anything that I needed was given to me or it was at my reach, and they made sure that I had everything I need. And they talked to us about labor and delivery and how to take care of ourselves, so that we can have healthy babies. And they are so emotional with us, and they talk to us about nutrition and keeping our bodies right during and after pregnancy. And they followup after the pregnancy, and talk to us about more nutrition.

Senator **Chiles**. You followed their advice about what you should be eating and how you should be taking care of yourself?

Ms. **Jones**. Yes.

Senator **Chiles**. Do you smoke?

Ms. **Jones**. No, not at all.

And they really help us a lot. And I was referred to them through perinatal clinic at Sacred Heart, and I have been helped a lot by them too. I couldn't have done it without them either.

Senator **Chiles**. Do you think the information that you are getting now is going to help you sort of have control of your destiny in the future?

Ms. **Jones**. Yes, sir, it will, definitely will.

Senator **Chiles**. Is child care a potential problem for you?

Ms. **Jones**. Yes; that's what I was discussing. It seems like most teenage girls drop out after the baby. They stay in up until the birth. Afterwards they don't have child care, and there is no way that they can attend school, because there is no way for them to get child care. And that's one main reason why they drop out, they don't have that backup behind them.

And then they usually don't be able to support the child, and then that leads to neglect of the child in later life. It's hard on most of us. And a potential problem to most of the teenagers that do give birth is usually child care and financial care, and they just don't have that.

Senator CHILES. How old are you?

Ms. JONES. I'm 16 now.

Senator CHILES. You are 16?

Ms. JONES. Yes; I was 15 when I found out I was pregnant, and I was referred to the perinatal a day before my 16th birthday, and I was accepted into their program.

Senator CHILES. How did you find out about it; was the pregnancy kind of a surprise to you?

Ms. JONES. Yes, it was, but I was attending the children's clinic at Sacred Heart, the adolescents clinic, I went there, and from there I was referred over to perinatal because I was high risk. And they made sure that I was referred to—and from there I was referred to the Children's Home Society and Cyesis, and they all just worked together with me and helped me out a lot.

Senator CHILES. What kind of information did you have before your pregnancy in regard to birth control, where babies come from or anything like that?

Ms. JONES. Well, at one time I was on birth control through the health department, but I just stopped, I just stopped, I didn't use them any more.

And now I learned more than I thought I knew about contraceptives, but before I didn't know about it. It was there for me, but I just didn't use it.

Senator CHILES. Do you think you know something now as to how to control your own fate, to make your own decisions in the future?

Ms. JONES. Yes.

Senator CHILES. Now, both of you decided to have your children. You were encouraged to have your children, were you not, and not to consider an abortion, not to think about that?

Ms. JONES. Well, when I first found cut I was pregnant, I never considered abortion or adoption, because I wanted my baby and I wanted to keep him. It was talked about, but only if I wanted.

Senator CHILES. But this made it easier for you, the fact that you had these———

Ms. JONES [interposing]. Yes; they introduced the options to me, but only if I wanted them. And I made it clear that I didn't want them, so they didn't say anything else about it to me. They just said, "It's here if you want it," and it was introduced to me.

Senator CHILES. We thank you very much for your testimony.

Our last panel we have will be from the eastern Panhandle. And we have Ms. Linda Shaw, who is a nurse midwife in Bay County Birthing Center in Panama City, and Ms. Ruth Wade, the Nursing Director of Franklin County Health Department.

TESTIMONY OF LINDA SHAW, NURSE MIDWIFE, BAY COUNTY BIRTHING CENTER, PANAMA CITY

Ms. SHAW. I would like to talk to you first about the Child Birthing Center and give you a brief history, because we are somewhat unique in the programs that are offered.

Senator CHILES. Fine.

Ms. SHAW. In approximately 1976-77 in Bay County, it was noted that there was absolutely no care for women who had no income. There was no public health clinic. There was no hospital clinic. There was a front porch at a doctor's office, but that was it.

At the same time the March of Dimes began advertising that you needed prenatal care. The executive director of our local March of Dimes chapter, plus some local advisory people on the March of Dimes, local doctors, got together and formed a private clinic that then was funded for salaried personnel through the National Health Service Corps.

This clinic has grown from a little sleepy clinic, just as Bay County has grown, and doubled in population to a very large functioning clinic that is an IPO contractor. We have just recently merged with county hospital, and we give traditional deliveries at the hospital and clinic care. We are not actually a birthing center.

Our delivery rates in the past year have risen from 16 a month to, I suspect, this year we will be very close to 40 deliveries a month. We delivered 400 babies last year, we expect to deliver over 500 this year at a very modest growth rate projection. Thirty-five percent of our four hundred patients were teenagers.

Senator CHILES. Thirty-five percent?

Ms. SHAW. Thirty-five percent of them.

We see all risk categories at our clinic, and yet two nurse midwives attended 74 percent of the births.

Our physicians are all private physicians who have until recently totally volunteered their time. We have gotten some funds for reimbursement to the physicians now. They attended 24 percent of our births.

Two percent of our births were at Sacred Heart through maternal transport because of high risk.

Senator CHILES. So if it looked like you really had a high risk patient, you transferred some of those out?

Ms. SHAW. Right. If we felt that the baby would be better served being born at Sacred Heart, the best transport incubator is his mother or her mother.

As far as preterm goes, we became involved in the Creasy program when it was introduced statewide 2 years ago. Prior to that our low-birth-weight rate was approximately 11 percent of our babies were under the 5½-pound range.

Last year when we did our statistics for the State, we found that 6 percent of our babies were under 5½ pounds, therefore, we have cut the low-birth-weight rate in half. I'm not real happy with it still.

We do continue to have at least 16 percent of our patients who are at high risk for preterm birth, so the percentage of women who are at high risk is as great, the percentage that have actually delivered low-birth-weight infants has reduced.

Senator CHILES. Again, that's because of the care through the pregnancy?

Ms. SHAW. I think so. I think it is through our recognition of what can and will happen.

Senator CHILES. So the screening is not all good, because there is some problems out there being able to follow up?

Ms. SHAW. But it's getting better, and we are still working on it. We have only served Bay County. The 400 deliveries we did last year were from Bay County.

In joining with the hospital, we looked at some statistics and realized that 115 of the babies born at Bay Medical Center were from Gulf and Franklin County. These women, 90 percent of them, were indigent, and a good majority of them did not have adequate prenatal care. We have contracted to provide services for 40 of these patients. This is all the money that has been provided for IPO services, yet last year there were 115 deliveries.

Ruth is going to talk to you some more about the problems we have with the outlying climate.

Senator CHILES. Are you getting support money from these counties?

Ms SHAW. The counties themselves are not giving us any support money at this point. The poverty level in these counties is very high. The county funds are not there. The only support moneys we have for the program and the outreach right now is coming from state IPO funds. We try to qualify as many patients as possible for Medicaid, but then we can only accept 40 within the IPO Program, because this is what has been paid for. There are many problems with this.

Ruth's clinic is 60 miles from my clinic. We have all the problems of distance and transportation. In 1 week Ruth has registered five patients for us, three of them had Creasy preterm scores above 13, so already we know we have high risk patients over there.

Senator CHILES. When you say that scores above——

Ms. SHAW [interposing]. Above 10 is at high risk.

Senator CHILES. Thank you.

Ms. SHAW. So we have all the problems of distance.

The other problem I mentioned before was that we had two CNM's—certified nurse midwife—who delivered 74 percent of 400 patients last year. We have a personnel crunch, and this is all involved in training programs and getting the people trained so that we can hire them. I am recruiting.

Briefly, that is essentially what our program is. We work hand in hand with the Bay County Health Department, the Franklin County Health Department and the Gulf County Health Department. Our patients are worked into family planning straight from delivery, we work with Children's Home Society in their teenage program, we work with WIC and Catholic Social Services, and the mental health unit. We have obtained child abuse prevention funds to teach parenting to our

Senator CHILES. What percentage of the need would you say that you are meeting in Bay?

Ms. SHAW. In Bay County we are meeting a grate deal of the need. I think we are just at about 80 percent, 80 to 90 percent of their need, because the publicity has been good and we are getting so many referrals into the clinic. We are not going to be meeting half the need in the other county.

I would like to quickly—I could not bring patients, the distance and their situation. I have three patients though that wanted to be introduced to you by me.

Senator CHILES. Fine.

Ms. SHAW. Sue is a 27-year-old patient. This is her fourth pregnancy.

She had a 32-week delivery of a 3-pound baby with the first pregnancy. The baby was seen at Sacred Heart and cared for their for respiratory distress syndrome.

She was able to carry her second pregnancy 38 weeks, and delivered a 6-pound-8-ounce infant.

Her third——

Senator CHILES [interposing]. Did the first baby survive?

Ms. SHAW. Survived.

Senator CHILES. But he or she has——

Ms. SHAW [interposing]. We don't know what learning disabilities he may have yet, he's still preschool, but does not seem to have a real neurologic deficit that we can see.

She was very lucky with her third baby. It was also born at 32 weeks, weight 3 pounds 15½ ounces, and has had no major problems.

Senator CHILES. Now, what kind of care did she have prior to these deliveries?

Ms. SHAW. The third pregnancy she had come into our program, but she had come into our program before we knew about how we needed to recognized preterm birth. And that delivery was a surprise to us. It shouldn't have been, but it was, and we know so much more now. The other two pregnancies was very low prenatal care.

She is currently 33 weeks pregnant. She has been hospitalized twice in preterm labor, and we have her on medication that is very expensive. We expect if we can carry her 3 more weeks, it's been close to $200 for her oral medication at home. She's in bed. The jury is still out. We may still have to transport her to Sacred Heart for delivery.

Senator CHILES. But, again, with these kind of complications without the medication, without the——

Ms. SHAW [interposing]. She would have had this baby 2 weeks ago, at 31 she would have already delivered.

Bonnie is 23 years old. This is her fourth pregnancy. She has never had a full term baby. She has had a 5-pound-5½-ounce baby, and a 4-pound-9-ounce baby. The second one went to Sacred Heart for respiratory distress syndrome. She has not had adequate prenatal care until this pregnancy. She's had one spontaneous miscarriage. She is currently 33 weeks pregnant and complaining about a heavy pregnancy and getting late pregnancy miseries, and we are thrilled to death.

And Sherry sent a letter to you. She just completed her fifth pregnancy and wanted to come, but her daughter is only 2 weeks old. She had two spontaneous miscarriages. she had one normal term delivery. The last pregnancy was a 5-pound-15-ounce somewhere around 34 weeks, who also needed premature care but was able to remain in Bay County.

We saw her the first time at midpregnancy, 19 to 20 weeks. At that time she was beginning to go into labor. We put her on bed rest, gave her a class on contraction recognition. Within 1½ weeks she was recognizing regular contraction. We hospitalized her. The doctors placed her on oral medication. We maintained her for the next 10 weeks on bed rest and orgal medication. She started labor again, was again hospitalized. Finally we were able to hold her until 35 weeks, and 1½ week ago she delivered a 5-pound-15½-ounce girl. This is not a large baby, but it is an alive baby that would have not have been there at 21 to 22 weeks.

She stated, "I was a candidate for preterm labor. I was at high risk. I've had two miscarriages at 12 weeks before my first two children. With this child everything started out fine until about 22 weeks along, and I started having contractions, and my cervix started dilating. Without Linda and Lila I would have not made it through this pregnancy. I was prescribed a drug called Tributaline, which closes the cervix."

It doesn't actually do that, but it stops the contractions and the cervix may reform, and along with bed rest.

"Without this I would have lost my baby. It was depressing and boring, but believe me it was worth it in the long run. At about 32 weeks I started dilating again, went up to 3 centimeters, was in the hospital on intravenous medication and then continued bed rest and medication at home.

"I delivered at 35 weeks and had a baby girl 5 pound 10¾ ounces. She was a little jaundice, but beautiful. I really appreciate what this has done for me."

Senator CHILES. Thank them all for their letters.

Ms. SHAW. I was told in graduate school that the United States had the highest success in dealing with low, very low, birth weight infants.

And then Dr. Al Brand said, "You need to look at that statistic. This mean we've had more very low-birth-weight infants to deal with or we wouldn't be so successful."

And I firmly believe that just as it's the right of all our kids to have a public education, it is the right of all our unborn children to get the adequate care they need to grow well.

Senator CHILES. Thank you very, very much. You are doing the Lord's work.

Ms. WENDT. The Creasy program that she is referring to is a special program that we have here in Florida that no other State is doing in the country. And it is a special screening program where we try to identify whether you are in danger of premature birth. And then there is a special protocol to be followed after these women are identified, which Ms. Shaw is saying has reduced the number of low-birth-weight babies by half.

Senator CHILES. So by being able to screen and look at that program, you have been able to reduce those figures. That is a tremendous gain. You say you are not totally satisfied, you can do better.

Ms. SHAW. I'm like a chicken in every pot, I want a 7 pound infant in every bassinet.

Senator CHILES. Thank you.

Ms. Wade.

TESTIMONY OF RUTH WADE, NURSING DIRECTOR, FRANKLIN COUNTY HEALTH DEPARTMENT

Ms. **Wade**. Franklin County is in a very unique situation. We're way out from everywhere, and it's not on the road to anywhere.

Senator **Chiles**. And I've got a problem with your oyster beds.

Ms. **Wade**. Which is our main source of income.

Senator **Chiles**. Right.

Ms. **Wade**. Since Elena came she covered up our oyster beds, and we're looking at maybe 18 months before they'll be able to get any oysters out of there again.

We have a lot of people who depend solely on oystering for a living. We have a lot of uneducated people who thought that they could do just what their daddies did and made a good living. With the oyster beds covered up, they're not candidates for the job market. They have no other marketing skills, so we have a lot of people with no moneys coming in.

They were all looking forward to September when the oystering season would start. A couple working together can make a thousand dollars a week. Well, Elena took care of that.

These people still have to pay their utilities, send their children to school, buy food and clothing and life still must go on. A lot of these people were pregnant before this happened.

It falls to us who care to see that these people's health needs are met. By monitoring these pregnant ladies medically and nutritionally, we help to prevent birth defects and, therefore, more expense to the system in years to come.

At the Franklin County Health Department, we monitored 42 patients in the 1984-85 year, 28 were IPO patients, 12 were Medicaid patients and we had two home deliveries by lay midwives in Franklin County, which we don't really encourage because we are so far away from everything. There is not a delivering hospital or physician within at least 60 miles from Apalachicola.

Some of the ladies without our help would have had a normal, uneventful pregnancy, and would have had normal full-term babies. A lot of these would not have. Most of them would not have. At least they would have had an undernourished, undersized baby.

Sixteen of the ladies we took care of were from 15 to 18 years of age at the time of delivery, so that tells us that a lot of them got pregnant at the age of 14.

We have been accepting patients this year already for a little over a week, and we have already enrolled five patients. We have more on the book to be worked up next week. We were allotted money for only 20 patients for the entire year, so we're going to run out of money a long time before we run out of patients in need.

We delivered our last IPO patient with our last funding on Janaury the 22, 1985, so we have been since January without IPO funding. We have had many calls for the services, but we have just not been able to provide it.

Senator **Chiles**. The IPO, that is State funds?

Ms. **Wade**. Right. I call it IPO, it's the same thing as IPOP.

We always refer our patients to the WIC so that they get nutritional counseling. Even if we can't provide the prenatal care, we always refer to WIC. And when we can provide the prenatal care, we refer first to Medicaid to see if they can get on Medicaid first. If they are not Medicaid eligible but they are still of low income, then we take them.

The obstetricians in our area charge anywhere from $450 to around $1,200 for their deliveries. That is just for the delivery services, that is not for the hospital. That is for a normal vaginal delivery, not for a C-section. So for a normal vaginal delivery, you are looking at a cost around $2,300 to $2,400, which our people just cannot meet.

In 1983 before we had IPO, we had 17 low-birth-weight babies born from Franklin County citizens.

In 1984, after IPO, we had five low-birth-weight babies.

Senator CHILES. Went from 17 to 5?

Ms. WADE. From 17 to 5.

Senator CHILES. That was pretty cost effective, wasn't it?

Ms. WADE. Yes, very well spent money.

This year we didn't get the moneys to see as many patients as we did in the past, so we really need more funding.

Senator CHILES. So that number is liable to go up is what you are saying?

Ms. WADE. Right.

Senator CHILES. We will we pay more later, because we are not paying more now?

Ms. WADE. That's exactly right.

Not only that, a lot of our people don't even have automobiles. We are working with Linda at the child birth center, and we have plans in the future for the nurse midwives to come to Franklin County once a month to monitor these patients with us. Right now there are only two nurse midwives, so they can't take themselves away from their clinics.

Senator CHILES. They are delivering all the time.

Ms. WADE. Right, so right now, since we're just starting, we don't have any deliveries imminent. We don't take a patient 6 months or closer to delivery date, because we are not a delivering service. We are trying to prevent low-birth-weight babies, and by the time they're 6 months——

Senator CHILES [interposing]. So what you are telling me, Ruth, is you have people knocking on your door right now that you can't give even the counseling service to try to keep them from having low-birth-weight babies?

Ms. WADE. Right. Well, now we can. We are funded now for IPO, but 2 months ago we couldn't.

Senator CHILES. And what did they do 2 months ago when they didn't——

Ms. WADE [interposing]. They just go without prenatal care. They drop-in deliver at Bay Medical Center, or if they are from Carrabelle, which is on the other side of the county—we have a very long county—then they usually drop-in deliver in Tallahassee.

Senator CHILES. Well, obviously from what you say, these nurse midwives are the corps of the prenatal care in a rural area like yours. You said they were delivering 70-some percent of the babies.

Ms. SHAW. Right, and we had 400 deliveries of the low-income babies.

Actually, I saw some statistics from our county, and one of the years, I think it was 1983, we actually delivered 9.9 percent of Bay County births, total births.

Senator CHILES. Are there any special problems that the nurse midwives are facing these days in their efforts to provide care?

Ms. SHAW. Yes, there are. We've lost insurance.

Senator CHILES. I heard that.

Ms. SHAW. I lost my malpractice insurance October 4.

Luckily, in my case, I had already been hired by Bay Medical Center. Our program had been taken under their umbrella. And one of the reasons we were taken under their umbrella is so they could provide us with insurance, and we can practice in that relationship under the nurse practice act.

So I'm feeling fairly comfortable with that now, however, had we not gone in this situation or we lose the hospital coverage, then we have no insurance. And the hospital bylaws read that I must have insurance to work there, so I'm a catch-22 if I lose insurance.

Senator CHILES. If you lose insurance, then you can't work?

Ms. SHAW. I can't work, I can't see these patients, because I can't deliver them, and we can't use the hospital's services.

I could probably see them antipartum, if I wanted to take the risk.

Senator CHILES. Well, we have put $1 million study under way on the malpractice insurance problem in our 1986 appropriations bill. I don't know when the answer will be forthcoming, but we do recognize this a problem across the country now.

Ms. SHAW. The second problem we have is in funding the programs that train the nurse midwife. The programs that are training nurse midwives have a very small student body, so that you can have a 1-to-1, 2-to-2 teacher-student ratio and get good training.

Senator CHILES. Tell me what your training is.

Ms. SHAW. I have a bachelor's in nursing from Florida State University. I had 17 years of nursing experience. And then I want to Emory University and received a master's of nursing and certificate of nurse midwifery through the Emory program.

Senator CHILES. So you actually went and did some graduate work and learned there?

Ms. SHAW. Yes, sir.

Senator CHILES. Now, there are other ways of qualifying as a midwife?

Ms. SHAW. As a midwife.

Senator CHILES. Excuse me. I want to try to get these distinctions a little bit.

Ms. SHAW. Basically, we hear about three types of midwives.

The granny midwife is the old, traditional care giver that was very common in the South. She may or may not have had any training. At one time when I was at FSU, we actually licensed in the State granny midwives. They came in once a month for a class at the health department, and their bags were checked. Granny midwives are essentially not legal in most of the Southern States, and they are not legal in Florida.

The next category that you hear about is the lay midwife. The lay midwife may or may not have some education. There is a lay midwifery school, I believe, in Washington State, I'm not as familiar, and possibly one in Texas. Other times women have gotten licenses or said they were lay midwives just from on-the-job training. And the State of Florida, of course, did have a lay midwifery law that went into sunset.

Senator CHILES. It has sunsetted now?

Ms. SHAW. Yes.

Senator CHILES. Did we grandfather or grandmother in the lay midwives that were out there?

Ms. SHAW. They are allowed to practice, yes. And many of the still practicing grannies converted to the lay midwifery license.

The certified nurse midwife is a registered nurse who has experience in the perinatal field, and then has gone back for graduate study in the normal obstetric course and nurse midwifery care.

Senator CHILES. We know that there is a problem now with nurses leaving the field generally; is that a problem with nurse midwives as well?

Ms. SHAW. There have been some statistics from the American College that state after 10 years there is a large majority of nurse midwives that are no longer actively practicing nurse midwifery or no longer actively delivering babies. This would seem to me to state that there is some burnout, there are nurse midwives that do leave, and I don't know how many at this point, but they said a lot after 10 years were no longer delivering.

Senator CHILES. How long have you been a midwife now?

Ms. SHAW. I have been a midwife 3 years.

Senator CHILES. You seem to enjoy it.

Ms. SHAW. I love it.

Senator CHILES. Well, that's great.

Thank you all very, very much. We appreciate your testimony as well.

Ms. SHAW. Thank you.

Senator CHILES. We are going to adjourn our hearing now.

I am delighted with the testimony I received.

I think it is pretty obvious why Escambia and this area is doing very well. It looks like you have a community that cares.

And certainly through the Sacred Heart Hospital, as well as the infrastructure from the county health department to the IPO Program, IPOP, that a real net has been put together. Something like that, similar to that, is what we need to try to get across this country.

Obviously, if we had it all across Florida, we'd have a better program. We can see from the testimony we received from the eastern part of the panhandle where there are not sufficient funds, were we are not really meeting the need there, that there is a problem there. But we will hold further hearings. I know we will be holding a hearing in Washington.

And I know this is a problem that we can do something about. It's one that we simply must do something about.

So we will recess the hearing.

[Whereupon, the hearing was recessed to reconvene at the call of the Chair.]

PREVENTING INFANT MORTALITY: INTERGOVERNMENTAL DIMENSIONS OF A NATIONAL PROBLEM

THURSDAY, OCTOBER 31, 1985

U.S. Senate,
Subcommittee on Intergovernmental Relations,
Committee on Governmental Affairs,
Washington, DC.

The subcommittee met at 9:35 a.m., in the auditorium of Laboure Hall, Providence Hospital, Hon. Dave Durenberger (chairman of the subcommittee) presiding.

Present: Senators Durenberger and Chiles.

Staff present: Margaret Wrightson, staff director; Robert F. Harris, minority staff director; Lynn Blewett, Mary Brecht, Richard Farrell, Carnie Hayes, Celeste DeLorge, professional staff members; and Mary Peterson, chief clerk.

OPENING STATEMENT OF SENATOR DURENBERGER

Senator Durenberger. I am the chairman of the Subcommittee on Intergovernmental Relations. This is the ranking member, the Senator from the State of Florida, Lawton Chiles, and we would like to welcome you to Providence Hospital. We extend our appreciation to the board and trustees of the hospital, to Bob Hutson, who is the director of the Providence Center for Life, who is acting as our host here today, to the Catholic Health Association, and to everyone else who is responsible for making the hearing today possible.

Our hearing agenda is altered slightly in that Mayor Marion Barry will not be able to get here until later this morning, probably in the neighborhood of 11, 11:15.

The topic of our hearing today is S. 1209, a bill introduced by my colleague from Florida, Senator Chiles, and introduced in the House as H.R. 3344 by our colleague, Mickey Leland from Texas, who is here to testify on the bill.

The bill would establish a National Commission to Prevent Infant Mortality. I have to tell you as a rule that I am not a big fan of study commissions, but there are some issues which are of such national importance they call for a truly comprehensive scrutiny that only a group of experts can undertake for us in this country.

In 1982, over 42,000 infants died before reaching their first birthday. That is more than the entire population of my hometown in Minnesota, the city of St. Cloud.

As a nation, we have made steady improvement in reducing infant mortality. In 1982, the last year for which we have official figures, the rate was 11.5 deaths per 1,000 live births. Some new quarterly figures indicate that rate has fallen further.

But it is important to remember that as always, statistics are a lot like a figleaf: What they reveal is suggestive, but what they conceal is vital.

First, our infant mortality rate is still higher than that of more than a dozen other developed nations in this world.

In a nation that prides itself on providing the finest medical care in the world, that spends more than $1,500 a year per person on health care, which is more than three times as much as any other nation, it is a national disgrace that we are that low in this world in infant mortality.

The second point is that Americans are not sharing equally in the advances that are being made against infant deaths. Women who are poor, who are black or native American, who have no health insurance, who live in inner cities, or who live in heavily rural areas, who live in the Southern United States, are all much more likely to lose their children in the first year of life, simply because they don't have the access to proper health care or to the information necessary to tell them how to get it.

In a nation that prides itself on equity and compassion, that is a crime.

Finally—and this is a critical point—it is not just the deaths of children at issue here today. At issue are also the lives of thousands of infants who survive their first year but with serious and debilitating illnesses and handicaps, many of which are preventable with good prenatal or neonatal care. These are the kids who don't show up in infant mortality figures, the kids suffering from what is known in medical jargon as infant morbidity.

In fact, I would like my colleagues to consider changing the name of their proposed study commission to the National Commission to Prevent Infant Mortality and Morbidity, if they wouldn't object to that.

It is commonly known that there are certain geographic areas in the country with particularly high rates of infant mortality and morbidity. Ten out of the eleven worst infant mortality rates belong to the Southern States.

Who would guess that there are problems in a State like Minnesota, known for its quality of life and innovative health care system? Minnesota has the sixth lowest infant mortality rate among the 50 States.

But again, if you look behind that statistical figleaf, the infant mortality rate for that clean and beautiful city of Minneapolis, in which I now live, is more than 12 deaths per 1,000 live births, which is above the national average.

For Minnesota's native Americans, the rate is even more startling, more than 25 deaths per 1,000 live births. The rate for blacks is only a little lower, not only more than twice the national average, but more than twice the rate for Minnesota's white population.

Maybe the saddest thing of all is that we know how to bring many of these children into this world healthy. So much of infant mortality and morbidity is preventable. A study released by the University of California found that 26 percent of infant deaths and 50 percent of mental retardation can be prevented. We know, for instance, that low birth weight, which contributes to two out of three infant deaths, as well as a variety of health problems, can be reduced drastically through better prenatal care.

Our witnesses here today will tell us that the best way to prevent infant mortality and morbidity is to prevent very low-birth-weight infants. How to do that? Very simply, a better allocation of this Nation's resources.

As a nation, we spend $400 million a year on health care, but little of it targeted on effective, preventive health care services. The annual costs in this country for neonatal intensive care exceeds $1.5 billion. In the Twin Cities of Minneapolis and St. Paul, we have more than three times as many neonatal intensive care beds per capita as in Oslo, Norway, and yet their rate of infant mortality and morbidity is much lower than ours.

It means they are putting their resources to better use than we. And the cost of special education and long-term care for children with chronic disabilities in this country can easily reach $400,000 per person.

Now we are taking some action to invest in preventive care, but we are taking it one small step at a time. The Senate's budget resolution this year contains a provision added by my Health Subcommittee of the Finance Committee that allows States to provide more comprehensive prenatal care to poor women through the Medicaid Program.

These incremental steps are encouraging, but there is much more to be done if we recognize that the best incubator of all is not here at Providence Hospital, it is in the womb of the mother.

Today we will hear the many problems that women face in getting access to prenatal services. Lack of insurance coverage is just one of those; 6 million women in the United States have no health insurance coverage. Hospitals simply swallow the bill or write it off as bad debt, a practice that is increasingly difficult as the health marketplace becomes more price competitive.

Cities I visited recently like Detroit, Cleveland, and Chicago are spending more; the hospitals in those cities are spending more than $100 million per year per community on uncompensated care. Malpractice insurance rates are rising so fast that even the best OB/GYNs are being priced out of the profession, even where their practice is mostly for healthy or paying patients.

Also aggravating the situation is Government's fragmented system of delivery. The Federal, State, and local levels of governments have assumed joint responsibility is assuring each American access to quality health care.

But as with so many other things, intergovernmental failures contribute to the causes of infant mortality and morbidity.

These reasons and more dictate that we have a national commission on infant mortality and, I would hope, on infant morbidity.

The administration will argue here today that we know what needs to be done to prevent infant mortality and morbidity. They will argue that, "We just don't need a commission to tell us; that we need to be about the task of acting upon what we know." That is a direct quote.

I would argue that we need a national commission on infant mortality and infant morbidity to bring the national conscience and the conscience of this administration into taking action they seem unwilling to take.

I compliment the Secretary of HHS for the very fine organizational efforts which Dr. Mason will describe to coordinate our Nation's attack on infant mortality and morbidity.

But the best of these efforts cannot be successful without the appropriate allocation of this Nation's resources to the heart of the problem. I think that is the best argument for this commission.

[Senator Durenberger's prepared statement follows:]

PREPARED STATEMENT OF SENATOR DURENBERGER

I would like to welcome you all to Providence Hospital. My thanks to Bob Hutson, Director of the Providence Center for Life, and the Catholic Health Association, for making today's hearing possible.

The topic of our hearing is S. 1209, introduced by my colleague form Florida, Senator Chiles. The bill would establish a National Commission to Prevent Infant Mortality. I have to tell you, as a rule I'm not a big fan of Congressional study commissions. But there are some issues which are of such national importance, they call for the kind of truly comprehensive scrutiny that only a group of experts can undertake for us. When we are discussing the very lives of our children, we need more than the independent analyses of 435 congressional laymen.

In 1982, over 42,000 babies died before reaching their first birthday. That's the entire population of my home town, St. Cloud, Minnesota.

It is certainly true that, as a nation, we've made steady improvements in reducing infant mortality. In 1982, the last year for which we have official figures, the rate was 11.5 deaths per 1,000 live births. Some new quarterly figures indicate that rate has fallen even further.

But it's important to remember that, as always, statistics are a lot like a fig leaf: What they reveal is suggestive, but what they conceal is vital.

First, our infant mortality rate is still higher than more than a dozen other developed nations.

In a nation that prides itself on providing the finest medical care in the world—and spends more than $1,500 per person on health care each year—that is a national disgrace.

Second, Americans are not sharing equally in our advances against infant deaths. Women who are poor . . . who live in inner cities or heavily rural areas . . . who live in the southern United States . . . These women are much more likely to lose their children in the first year of life, simply because they don't have the access to proper health care or to the information telling them how to get it.

In a nation that prides itself on equity and compassion, that is a crime.

Finally—and this is a critical point—it's not just the deaths of children at issue here today. It is also the thousands of infants who survive their first year, but spend their lives with serious and debilitating illnesses and handicaps, many of them also preventable with good prenatal and neonatal care. These are the kids that don't show up in the infant mortality figures, the kids suffering from what's known in medical jargon as "infant morbidity."

In fact, I'd like Senator Chiles to consider changing the name of the proposed study commission to "The National Commission to Prevent Infant Mortality and Morbidity," if he doesn't object.

It's commonly known that there are certain geographic areas in the country with particularly high rates of infant mortality and morbidity. Ten out of the eleven worst infant mortality rates belong to southern states.

And who would guess that there are problems in a state like Minnesota, known for its quality of life and innovative health care system? Minnesota has the 6th lowest infant mortality rate among the 50 states.

But again, look under the statistical fig leaf. The infant mortality rate for the clean and beautiful City of Minneapolis is more than 12 deaths per thousand live births—far above the national average.

For Minnesota's Native Americans the rate is even more startling—more than 25 deaths per thousand live births. The rate for blacks is only a little lower. Not only more than twice the national average, but more than twice the rate for Minnesota's white population.

Maybe the saddest thing of all is that we know how to keep many of these children alive and healthy. So much of infant mortality and morbidity is preventable.

A study released by the University of California found that twenty-six percent of infant deaths and fifty percent of mental retardation can be prevented. We know, for instance, that low birthweight, which contributes to two out of three infant deaths as well as a variety of health problems, can be reduced drastically through better prenatal care.

The most basic problem is misallocation of resources. As a nation we spend $400 billion a year on health care, but we don't target enough of that money to preventive health services. The annual cost for neonatal intensive care alone exceeds $1.5 billion. In Minneapolis-St. Paul alone, there are three times as many neonatal intensive care beds per capita than in Oslo, Norway.

And the cost of caring for children with chronic disabilities is huge. The price of special education and long-term care for the life of each one of these children can easily reach $400,000.

We are taking action to invest in preventive care, one small step at a time. The Senate's budget reconciliation package contains a provision, added by my Health Subcommittee of the Finance Committee, to allow states to provide more comprehensive prenatal care to poor women through the Medicaid program. These incremental steps are encouraging, but there is so much more to be done.

The point is simply this: Of course, we have to have enough resources to care for children with illnesses after they're born. But doesn't it make sense to put our money up front in preventive care to see that more children get a healthy start? The world's best incubator isn't here in this hospital, it's in the mother's womb.

Today we will hear the many problems women face in getting the access to prenatal services they need. Lack of insurance coverage is one of the primary financial barriers. Over six million women in the U.S. have no health insurance coverage. Hospitals must simply swallow the bill or write it off to "bad debt"—a practice that is increasingly difficult as the health marketplace becomes more price-competitive.

Another rising problem is the reluctance or refusal of obstetricians to take on low-income patients. Even if covered under Medicaid, the Medicaid rates are often too low to cover the physician's costs of treating the patient. A major factor in those costs are malpractice insurance rates, rising so high that OB/GYNs are being priced out of the market, even for healthy and paying patients.

Also aggravating the situation is government's fragmented system of service delivery. The federal, state and local levels of government have assumed joint responsibility in assuring each American access to quality health care. But as with so many other things, intergovernmental failures contribute to the causes of infant morality and morbidity.

For all of these reasons, we are calling for a National Commission on Infant Mortality—or Infant Mortality and Morbidity—and for all of these reasons we are having a hearing today. Again, I thank you all for coming here to witness and take part in this important discussion.

Senator **Durenberger**. I congratulate my colleague and introduce him to you now for his authorship of this legislation.

OPENING STATEMENT OF SENATOR CHILES

Senator **Chiles**. Thank you very much, Mr. Chairman. I appreciate your calling this hearing, and certainly, your cosponsorship of S. 1209, as well as Congressman Leland's sponsorship of H.R. 3344 in the House. You have certainly demonstrated your concerned leadership in the field of providing proper health care for our citizens, and certainly, your proposal regarding access to health care is consistent with your interest in health problems in this country.

I join you expressing my appreciation to the officials and staff of Providence Hospital and their Center for Life. I noted in their literature that they are committed to serving people without regard to race, religion, national origin, or economic status.

Mr. Chairman, I think that last term, "economic status," is very important. A lot of institutes and organizations are willing to serve people in every other category—race, religion, nationality—but if they are poor, then they have a problem with service. I want to commend Providence Hospital and their commitment to serving the poor.

The hearing is for me, today, a culmination of the beginning phase of raising public awareness to the seriousness of infant mortality, and I like your term, morbidity, Mr. Chairman, in this country. In two hearings held in Florida this summer, I have heard from approximately 25 witnesses. Those witnesses included health care delivery specialists, elected public officials, health and medical officials, and individuals who experienced some of the problems of trying to get proper medical care during pregnancy.

I have also, in my State, visted clinics and hospitals in Tampa, Jacksonville, Tallahassee, Fort Myers, and Fort Lauderdale trying to see what our State and local governments are providing in the way of services for pregnant women and their babies. Many of these places have implemented programs which make some inroads toward progress in this situation. But there is still much to do.

I want to take a moment to talk about S. 1209 and what I hope the legislation would accomplish. First of all, let me assure everyone that I don't see the commission that will be created by this law as one who will issue a report and that will be it. I agree with those critics who say study commissions that tell us the obvious are not worth the ink that it takes to create them.

What S. 1209 would do is create a commission with a clear mandate for legislative and administrative action designed to vigorously attack the problem before us. The commission would coordinate and focus the efforts of many groups that have been working in this vineyard for many years. Also, a commission created by the Congress as a focal point for action cannot be easily ignored. Right now we have organizations and groups who come out with reports and findings which sometimes initiate some interest among Members of the Congress, but it is difficult to get a large block of Members interested simultaneously.

The advantage of having a congressionally mandated commission is that you already have some Members interested right from the beginning. Presently, as cosponsors of our bill, there are cosponsors that are committee chairmen and ranking members committed to effectively seeking solutions to the problem of infant mortality.

When this bill passes and becomes law, it will be our commission, Congress' commission. It is easy to ignore someone else's baby crying out there, but it is a little bit harder when that baby crying is your own baby, and this is going to be Congress' baby.

In 1984, we know 39,000 infants died in this country before their first birhdays. That is a provisional infant mortality rate of 10.6 percent.

I am told these figures have improved some over the last year, and that is important, but we know that that improvement is marginal, and we also know that the rate of improvement has slowed down.

If a child is born in the United States, his or her chances of survival are less than those of a child born in Japan, Australia, Spain, or many other nations. The United States can't seem to improve compared to the rest of the world because we still have this tremendously high number of low-birth weight babies. No matter how much advanced technology is at our Nation's fingertips, if we can't get our babies growing healthier from the beginning, the United States will continue to hang back from other developed countries with infant mortality.

Moreover, we can't ignore the fact that infant mortality rates do fall, the gap in infant survival between blacks and whites widens.

In 1950, black rates were nearly 65 percent higher than white rates for infant deaths. By 1965, the gap had gone to 95 percent. It fell back to about 85 percent in 1975. It is back to 95 percent in 1983.

Relative to whites, blacks have made no gains in infant mortality since 1950; in fact, they are actually falling behind.

In 1912, the Federal children's bureau issued this statement regarding infant mortality: "The coincidence of a high infant mortality rate with low earnings poor housing and large families was indicated in these studies." And that report also talked about the impact of social and economic conditions, as well as good prenatal and infant care.

Our future must be brighter than our past. In most areas of national concern, we are a leader. In that case of infant mortality, we are a loser.

In countries exceeding 2 million in population, in the 1950-54 period, we were in 7th place; 10 years later, 1960-64, we were in 11th place; 10 years later, 1970-74, we were in 16th place. In 1982, we were 17th. In Olympic game terminology, "You don't win no medals being 17th."

Again, we are not satisfied with our position or relationship with respect to the rest of the world. We are not satisfied with our failure to respond adequately on these issues.

I certainly look forward to hearing from our impressive list of witnesses in the hope that one day we will be a world leader in preventing infant mortality.

We know that from them that have much, much is expected. We are expected to do better.

[Senator Chiles' prepared statement follows:]

PREPARED STATEMENT OF SENATOR CHILES

Thank you, Mr. Chairman, I appreciate your calling this hearing and also your cosponsorship of S. 1209. You have certainly demonstrated concerned leadership in the field of providing proper health care for our citizens. Certainly your proposal regarding Access to Health Care is consistent with your interest in health problems in this country.

I join you in expressing my appreciation to the officials and staff of Providence Hospital and their Center for Life. I noted that in their literature they are committed to serving people without regard to race, religion, national origin, or economic status. Mr. Chairman, I think that last term, "economic status," is very important. A lot of institutions and organizations are willing to serve people in every other category—race, religion, nationality—but if you're poor, then they have problems with service. So I want to commend Providence Hospital for their commitment to serving the poor.

This hearing today is for me, the culmination of the beginning phase of raising public awareness about the seriousness of infant mortality in this country. In two hearings held in Florida this summer, I heard from approximately 25 witnesses. Those witnesses included health care delivery specialists, elected public officials, health and medical officials, and individuals who had experienced some of the problems of trying to get proper health care during pregnancy.

I also visited clinics and hospitals in Tampa, Tallahassee, Ft. Myers, Jacksonville, and Ft. Lauderdale to see what the state of Florida provides in the way of services to pregnant women and their babies. Many of those places have implemented programs which make some inroads toward progress on this issue, but there is much more to do.

Let me take a moment to talk about S. 1209 and what I hope the legislation will accomplish. First of all, let me assure everyone that I don't see an Infant Mortality Commission that will be created by law, issue a report, and that's it. I agree with critics who say that study commissions who tell us the obvious are not worth the ink it took to create them. What S. 1209 would do is create a commission with a clear mandate for legislative and administrative action designed to vigorously attack the problem before us. The commission would coordinate and focus the efforts of many groups who have been working in this vineyard for many years. Also, a commission created by the Congress as a focal point for action cannot be easily ignored. Right now we have organizations and groups who come out with reports and findings which sometimes initiate some interest among members of Congress, but it's difficult to get a large block of members interested simultaneously.

The advantage of having a congressionally mandated commission is that you already have some members interested right in the beginning. Presently on S. 1209, there are cosponsors who are Committee Chairmen and Ranking Members who are committed to effectively seek solutions to the problem of infant mortality.

When this bill passes and becomes law, it will be our Commission, Congress' Commission. Its easy to ignore somebody else's baby crying in the night—its a lot harder to ignore your own. This will be our baby, and I expect Congress to heed its cry.

In 1984, over 39,000 infants died in this country before their first birthdays. That's a provisional infant mortality rate of 10.6.

I'm told that the figures have improved over the last year. That improvement, if it's true, is still marginal. However, I'm aware that preliminary figures for 1984-85 show the rate staying constant. In fact, the figure for all babies dying between 28 days and one year has increased by 3 percent in 1984.

Last year in Florida, 1,816 babies did not celebrate their first birthday. To me that figure is devastating. My state is still one of the worst in the South. The South still has one of the highest rates in the United States, and the United States still has one of the highest rates among industrial nations in the world.

If a child is born in the USA, his or her chances of survival are less than if that child was born in Japan, Australia, Spain, and many other nations. The U.S. can't seem to improve compared to the rest of the world because we still have a high number of low birthweight babies. No matter how much advanced technology at our nation's fingertips, if we can't get our babies growing healthier from the beginning, the U.S. will continue to hang back from most other developed countries in infant mortality.

Moreover, we cannot ignore the fact that when infant mortality rates do fall, the gap in infant survival between Blacks and Whites widens. In 1950, Black rates were nearly 65 percent higher than the White rates for infant deaths. By 1965, that gap had widened to 95 percent higher infant mortality for Blacks. And after decreasing to 85 percent in 1975, it was back up at 95 percent by 1983. Relative to Whites, Blacks have made no gains in infant mortality since 1950, in fact, they are falling further behind.

In 1912, the Federal Children's Bureau issued this statement regarding infant mortality—"The coincidence of a high infant mortality rate with low earnings, poor housing . . . and large families was indicated in these studies." And that report also talked about the impact of social and economic conditions as well as good prenatal and infant care.

Our future must be better than our past. In most areas of national concern we are a leader. In the case of infant mortality, we are a loser.

In countries exceeding two million in population, in the 1950-54 period, we were in seventh place. Ten years later, in 1960-64, we were in eleventh place, ten years after that, in 1970-74, we were in sixteenth place, and in 1982 we were seventeenth. In Olympic game terminology, "They don't give medals for seventeenth place."

Again, we are not satisifed with our position in relationship to the rest of the world, and we're not satisfied with out failure to respond adequately on this issue. I look forward to hearing from our impressive list of witnesses in the hope that one day we'll be a world leader in preventing infant mortality.

Senator **Durenberger**. Lawton, thank you very much.

Our first witness today is the Honorable Mickey Leland, U.S. Representative, Houston, TX. Mickey, we welcome you.

TESTIMONY OF HON. MICKEY LELAND, A U.S. REPRESENTATIVE FROM THE STATE OF TEXAS

Representative **Leland**. Thank you very much, Mr. Chairman, and let me thank you, Mr. Chairman and Senator Chiles, both of you, for your very thoughtful and compassionate statements. I want to thank you, too, for inviting me here to testify before the subcommittee on the need to establish a national commission to prevent infant mortality and hopefully, amended to be and morbidity.

On September 18, I introduced H.R. 3344, the companion bill to S. 1209, Senator Chiles' legislation. I am pleased that like S. 1209, H.R. 3344, with 36 cosponsors, has received bipartisan support from Members representing vastly different parts of our country.

Mr. Chairman, I commend you for your support of Senator Chiles' bill and for your sponsorhip, and particularly, for holding these hearings this morning.

Mr. Chairman, I join you today as a fellow Member of Congress, as chairman of the House Select Committee on Hunger, and as a member of the Subcommittee on Health and the Environment, which will consider H.R. 3344. But more importantly, I appear as a concerned American who knows of the urgent need to improve our maternal and infant health care delivery system.

According to recent statistics from the National Center for Health Statistics, the national infant mortality rate in 1983 was 11.2 per 1,000 live births; that is 40,627 young lives. This abysmal situation is intolerable. It is imperative that we mobilize our efforts to end this national disgrace. I believe establishment of a national commission to prevent infant mortality and morbidity will focus much-needed attention on the issue and serve as the beginning of a concerted, coordinated nationwide effort to reduce infant deaths.

Mr. Chairman, while infant mortality and low birth-weight statistics have improved over the past 2 decades, it is important to carefully examine the true nature of these statistics. The neonatal mortality rate, deaths of infants up to 28 days of age, has dropped significantly with the advent of new technology and intensive care nurseries. But the rate of postnatal mortality, deaths from 28 days to 1 year of age, increased between 1982 and 1983. During the past 10 years, such an increase has occurred only once before. This tells me that in a significant number of cases, new technology does not save babies' lives, but only allows premature and low birth-weight infants to be kept alive longer than what was possible in the past.

Overall, between 1960 and 1983, the infant mortality rate decreased from 26 per thousand live births to 11.2. Again, we must keep in mind this improvement is largely a result of technological advances. Additionally, the advent of programs to aid the poor, such as Medicaid, contributed to our progress. Recent cutbacks in these programs have retarded this progress.

Unfortunately, this overall statistical improvement is a shield against the sobering truth: Our existing health and nutrition care system to prevent infant mortality is woefully inadequate. Aggregate statistics mask the ever-increasing suffering of tens of thousands of mothers, babies, and families. We must close the chasm which claims the lives of so many.

Low-income infants, particuarly those from ethnic and racial minority groups, suffer from low birth weight and infant mortality rates far above those of other populations. For example, the black infant mortality rate in 1982 was 19.2 per 1,000 live births. Thus, a black child born in this country has almost double the risk of dying compared to a white child. According to the date from the NCHS, this black-white infant mortality gap is widening.

Let me make a note here, however, Mr. Chairman, if I may. I recall that in 1979, when I first came to Congress, I recognized the gap between white and black infant mortality rates and was contacted by one of my constituents who happened to be white. She said, "Well, why are you so concerned about just the black infant mortality rate?" Let me make this perfectly clear: that I care about babies dying period, regardless of what color they are.

In Houston, where my own congressional district is located, final 1984 infant mortality data revealed that from 1982 to 1984, the gap between the black and white infant mortality rates in Houston increased 16 percent.

The infant mortality rate gap between the rural poor and the rest of the nation grew an alarming 39 percent between 1981 and 1983.

I am very deeply troubled by these numbers, and personal experience has motivated me further. As the only pharmacist in Congress, I have worked in the health care field and have heard testimony from public health and medical professionals. The message I have witnessed and the message the professionals deliver is clear: Comprehensive prenatal care, social services, nutritional services, and health education is the most cost-effective means for preventing infant mortality and low birth weight.

According to the intstitute of medicine report issued recently, for every dollar spent on prenatal care, $3.38 is saved from costs which accompany the extraordinary methods which must be utilized for low-birth-weight babies.

In July 1984, the Select Committee on Hunger toured the intensive care infant nursery at the University of California Medical Center in San Francisco. The low-birth-weight infants we saw were tiny, frail, their lives wholly dependent on the intricate machinery to which they were attached. Most of these little citizens were unlikely to survive. The chief of neonatology at the hospital told the committee that many of the mothers of these undersized babies suffered from malnutrition during preganancy. We were told firsthand that hundreds of mothers, at this hospital alone, do not receive early comprehensive prenatal care. National data from the NCHS bear out this fact.

Mr. Chairman, it is inconceivable that although we know how to prevent infants from dying, as you have indicated, the United States still lags behing 14 other countries or, as Senator Chiles has noted, possibly 16 other countries.

Nine European nations, Japan, Canada, Australia, New Zealand, and Singapore have lower infant mortality rates than the United States. A concerted effort to assure all women and infants in need receive proper comprehensive prenatal and postnatal care can and will make a difference. A national commission to focus attention and coordinate efforts is the first step to reach this goal.

The mandate of the National Commission to Prevent Infant Mortality and Morbidity would be to make specific recommendations within 1 year of its formation for changes needed with in Federal programs to achieve an effective national role to reduce infant deaths. It would recommend a national policy to coordinate and improve State and local and private efforts to prevent infant mortality.

The combination of declining health status among low-income pregnant women and new-born infants, a fiscal crisis, and increased taxpayer concern has set the stage for a national coordinated effort to implement cost-effective changes in our maternal and child health care system. The establishment of a National Committee to Prevent Infant Mortality and Morbidity will help achieve this goal.

Again, Mr. Chairman, I appreciate the opportunity to appear before you this morning. I look forward to working with you toward our mutal goal of establishing a national commission.

Thank you very much.

Senator DURENBERGER. Thank you very much. I have just one question. You were in the Texas legislature, weren't you?

Represenative LELAND. That is correct, Mr. Chairman.

Senator DURENBERGER. Somewhere right near the end of your testimony you were saying one of the reasons we have a commission is to tie together Federal, State, local, and private efforts. I think that is where I come down, too.

I read Dr. Mason's testimony, which we are going to hear shortly, I think the administration's statement is that we don't need a commission and then it goes on to outline all the things that we ought to be doing.

There is a reason why I am here today, not as chairman of the Health Subcommittee of Finance, where we deal with Medicare, Medicaid, and MCH and a lot of these other things, but as chairman of the Intergovernmental Relations Subcommittee. One reason is to make sure that Lawton gets here as an official member of the committee, because he is not on Finance. [Laughter.]

But the other one is because it strikes me that the most important function of a commission is not to deal with so much what we ought to do by way of specific health delivery, and health care systems, but how all of us actors who are in charge of these multibillion dollar resources can be better used to make sure that we don't have the problem of infant mortality and morbidity that a much lesser developed nation might have to experience because it doesn't have those kinds of resources.

You have Medicaid jurisdiction over in the Environment and Health Subcommittee of the Energy and Commerce Committee. Tell us a couple of the things that are sort of going wrong in this intergovernmental system right now that aren't getting this combination of the Federal commitment, the State commitment, and the local commitment out there in terms of service dollars, particularly to the indigent.

Representative LELAND. Having served both in the legislature and then arriving in Congress, I found it necessary to do something about infant mortality in the State of Texas. More than anything else, Mr. Chairman, we found in 1979, maybe 1980, after we had established an infant mortality task force in the State of Texas under my leadership, one of the gravest problems that we found was that there was no real communication on the issue of infant mortality between and among city and county officials, and county and State officials on the issue.

Then we found, too, that there was no real data bank available for the State/intra-State agencies to draw on or to show real statistics to inform local and State officials as to where the problem was in the gravest sense or where the least of the problem was.

We found, too, after having my chairman, Henry Waxman go down to Houston for hearing on infant mortality, that there was no real coordination between the Federal Government and State government and local governments on the issue of infant mortality.

So the problem that we have just laid out of intergovernmental relations and information, providing a data base establishment is a real problem, more than anything else.

The task force was bound and determined, through a covenant, that we were not going to try to reinvent the wheel or to produce another study that would just sit on the shelf. But rather, what we would do would be to take all the available information, correlate it, and boil it down to the facts that were necessary in order for us to solve the problem. The commission can accomplish this on a national level.

Senator CHILES. I think this point is so important, because it is interesting. In going around my State and seeing who was doing something right and where it was working, the most effective services are where there were sort of layered services in which you had WIC playing a part and the improved pregnancy outcome program playing a part, and some of the charitable situations playing a part, in which there was a county effort in the county health services, in which there were these layered services, and the people would be picked up in one of those layered services.

We had Senator John Traeger from your State testify at our hearings in Miami, and he talked about how he, sort of an old conservative reactionary fellow, had to sort of get educated a little himself with this problem and then use that education that he got to go convince other people.

One of the problems again, that I see in my State, Mr. Chairman, is this is cost effective. We know that. We know that for every dollar we spend in preventive care, especially at the front end of these services, in giving the screening to these mothers, it saves up better than $3, probably up to $10 when we have these infants in neonatal intensive care. And yet county commissions will not fund the services adequately in these things, because they haven't been convinced.

Senator DURENBERGER. I see this national commission as being able to mobilize this information and support and to help focus on this problem. We don't need to study it. We know our principal offender is the low birth weight. How do we deal with it? How do we build the army of support to do that? You really reinforced my thinking on this.

What you have seen in Texas is what we need to do nationally, and I don't think we are talking about a tremendous role of Federal dollars. But we need to see that there are these layers of services. We need to see that women can get these services no matter where they are, and I think we need to generate the kind of support that brings in these county and local governments and the state governments for them to see it is cost effective for them. It makes sense for them to get in and do it.

Representative LELAND. Precisely. Under our current fiscal constraints, I refer back to the opening statement made by the chairman about how we need to reorder our priorities within the area of spending our health dollars. I think that this is an area that needs to be targeted. With this commission, I think that we can prove that infant mortality is, indeed, an area where we really ought to refocus and reorder our priorities.

Senator DURENBERGER. I think that is the frustration of the chairman of the Budget Committee, or the ranking member of the Budget Committee. I hope he stays that way for awhile. [Laughter.]

Representative LELAND. What kind of Freudian slip is that?

Senator DURENBERGER. It is two to one here, right?

But the frustration in dealing in this area is that in the budgetary sense, first we are facing the great, big deficit. Nobody wants to spend any more money to do anything right, and in prevention, you have got to spend a few dollars in order to make a lot of dollars, but you don't get any credit for a lot of dollars that you save in the budget process. You know, you get knocked because you are going to spend an extra $100 million here, or in Medicaid, and it shows up as a cost figure of some kind.

But nobody is able to credit us——

Senator CHILES. Right.

Senator DURENBERGER [continuing]. For the larger dollar savings that comes from that. That gets to be the frustration of having to live with a huge deficit and the rest of those problems that you can't get to do anything about.

Representative LELAND. Mr. Chairman, if I may, I would like to make one final note, and that is that I understand that the administration does oppose the creation of this commission. I would hope that the administration would soften its opposition here, because I think that we in the Congress want to work in partnership with the Federal agency, HHS, in order to resolve this very critical problem, and I think that in the long term it would prove to be just what you have said, cost efffective as well as saving a lot of lives in the future.

Senator DURENBERGER. Thank you.

Lawton, do you have any questions?

Senator CHILES. We are just delighted to have your testimony today and your experience in this already in Texas. Texas has taken a leadership role has already seen some results.

That, again, is a coordinated effort between the Federal, the State, and the local people, and it is an educational effort. I think that is much of what we are about here today. In this early care that we must give to these pregnant women, so much of that is just pure education, just trying to get them to see and understand the kind of steps that they need to take so that they won't have a low-birth-weight baby.

We find that so critically important, and we are just delighted to have your sponsorship in the House.

Mr. **Leland**. Thank you very much. I look forward to working with both of you.

Senator **Durenberger**. Thank you very much.

Senator **Chiles**. I have a statement from Congressman Charlie Rose that I would like accepted for the record.

Senator **Durenberger**. It will be made part of the hearing record.[1]

Out next witness is Dr. James O. Mason, Acting Assistant Secretary of Health, U.S. Department of Health and Human Services, accompanied by Dr. Hutchins, the Health Resources and Services Administration of the division of maternal and child health; Dr. Berendes of the National Institute of Child Health and Human Development; Dr. Joel Kleinman of the National Center for Health Statistics, and Dr. Jim Marks of the Centers for Disease Control.

Gentlemen, we welcome all of you, and we are very grateful for all of you being here. I know Jim can handle this all on his own, but this variety is going to add to the spice of our morning, I am sure, and I think on behalf of both of us, we really appreciate it. I have tried to reflect in my opening statements that I appreciate the kind of commitment that the Secretary has made to this issue. She may not have made it, for one reason or another, to a commission, but she certainly has her heart in the right place as far as her commitment and that of the Department to the issues of infant mortality and morbidity.

We are just here to maybe argue that we can do a little better with another technique that the Senator from Florida has suggested to us, and we can broaden all of our understandings of the issues we care a lot about.

We will make your statement, Dr. Mason, and any other written comments a part of the record of this hearing, and you may proceed now to abbreviate in whatever way you deem appropriate.

TESTIMONY OF JAMES O. MASON, M.D., ACTING ASSISTANT SECRETARY FOR HEALTH, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES, ACCOMPANIED BY VINCE HUTCHINS, M.D., DIVISION OF MATERNAL AND CHILD HEALTH, HEALTH RESOURCES AND SERVICES ADMINISTRATION: HEINZ BERENDES, M.D., NATIONAL INSTITUTE OF CHILD HEALTH AND HUMAN DEVELOPMENT, NATIONAL INSTITUTES OF HEALTH; JOEL KLEINMAN, PH.D., NATIONAL CENTER FOR HEALTH STATISTICS, AND JAMES MARKS, M.D., CENTERS FOR DISEASE CONTROL

Dr. **Mason**. Thank you very much, Mr. Chairman. I am delighted to be here and to be accompanied by the gentlemen you have already introduced.

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[1] See p. 310.

I don't think we have a great deal to argue about. Most of the things that have been discussed prior to my testimony we agree to, and when we really come down to the matter, it is whether we need a commission or not and how to proceed rather than whether there is an unacceptable situation staring us in the face.

My testimony today will briefly outline the major trends in infant mortality and related statistics in the United States, why such trends are occurring and the activities the Department of Health and Human Services is taking in these areas.

Some of the challenges I will be highlighting have been with us for some time, and others are of more recent origin. Thiese issues have already been carefully examined numerous times by many investigators, task forces and prominent organizations, as well as by the Department.

Undertaking yet another commission to study the prevention of infant mortality as proposed by S. 1209 seems, in the light of what has already happended, to be of little value. Therefore, the administration opposes this legislation, because we fell the proposed legislation is unnecessary. We need to be about the task of acting upon what we know and seeking new knowledge to fill the gaps in our understanding in order to achieve further progress that we all desire.

We don't want things to stop at the State, and local level while they await a commission at the national level taking action. We need to decide at all levels, Federal, State and local, that current infant mortality is unacceptable and the gap between black and white infant mortality is unacceptable. We then need to proceed, without blaming the victim or without putting blame on any level of government. We need to get going using information already available.

Senator CHILES. How the heck do we do that?

Dr. MASON. There is plenty of information on exactly what we need to do.

Senator CHILES. I don't disagree with that at all, but how are we going to go about doing that? You say we need to do this and we need to do that, and how do we go? How do we start acting? Are we acting now?

Dr. MASON. Yes, we are acting now, but we are not doing enough. We all agree with that. Congressman Leland who preceded me, told of experience in Texas. He outlined that when Texas decided that what was happening was unacceptable, then they began to do things at the State and local levels. It isn't until we get down to the local level with knowledge and planning that we are going to make progress in doing something about this problem.

Senator CHILES. How do we trickle down to the local level? Doctor, you have said in statements before that you think this is a problem of the State and local governments and that they ought to be solving the problem.

Dr. MASON. I think it is a problem for all of us, but we have seen in this Nation that when the community decided that this problem is unacceptable and then when they organize themselves—and it has already been said—it isn't just a matter of resources. It is a matter of deciding that what is going on is unacceptable and then organizing to do something about the problem.

Senator CHILES. Have you decided it is unacceptable?

Dr. MASON. Yes, we have.

Senator CHILES. What have you been doing about it? What has your agency been doing about it, last year, the year before that? How much money, how many people, personnel, are we putting into this problem?

I don't sense that kind of commitment. I haven't sensed it at all. That is one reason that I thought we needed something to organize it.

Dr. MASON. Can I proceed with my testimony?

Senator CHILES. Yes, sir.

Dr. MASON. Since we, I think, all agree on the statistics, I will spend very little time on that. We have attached to our testimony charts on infant mortality, and we agree that the rate among black infants continues to be almost twice that of white infants. During the decade of the seventies, the average annual decline in the infant mortality rate was 4.5 percent. In contrast, provisional data from 1983 through the first 6 months of 1985 shows that the infant mortality rate declined by an average of less than 3 percent.

So there has been slowing down. We recognize that factors influencing these statistics are very complex, and they include demographic, medical, physical, environmental, educational, behavioral, attitudinal, and resources, and all of these need to be considered.

At this point, we can say that the major improvement in infant mortality is attributable to advances in neonatal intensive care, and we believe that the recent trends may, in part, be the result of changes in the infant's age of death. Over the past decade, the neonatal mortality rate, that is infant deaths under 28 days, has declined faster than the post-neonatal mortality rate. Regionalization of perinatal services, the technology of newborn intensive care units, and more accessible prenatal care have contributed to the improved rates.

Final data for 1983 indicate that the neonatal rate continues to show a substantial decline. However, the postneonatal rate increased to 3.9 from a rate of 3.8 in 1982.

Senator CHILES. Is that basically saying that, with our technological advances or technology, we can keep them alive that first 28 days better, but then we lose them after that?

Dr. MASON. Well yes. That is what we can conclude. We are getting to the point of maximum achievement in terms of technology doing the job. We have long recognized the relationship between infant mortality and low birthweight. That has been commented about earlier. More than two-thirds of deaths in the neonatal period occur among low-birth-weight infants.

The link between birth weight and death in the postneonatal period is less pronounced but still substantial. Low-birth-weight infants are several times more likely than normal-birth-weight infants to die later in the first year and more than 20 percent of postneonatal deaths occur to low-birth-weight infants. The varying rates of low-birth-weight groups among subgroups are a major contributor to the difference in infant mortality found, particularly among blacks.

In 1983, 6.8 percent of births in the United States were low birth weight. This represents only a 14-percent decline since 1970. There has been no change in the low-birth-weight rate since 1980. Again, blacks are more than twice as likely as whites to deliver a low-birth-weight infant.

Even when several factors such as age, marital status, month prenatal care began and educational level are controlled simultaneously, black women continue to be twice as likely as white women to have low-birth-weight infants.

There is little question about the value of quality prenatal care and its contribution to the health of pregnant women and preventing or reducing the complications of pregnancy and labor.

We need to better understand the content and components of prenatal care that are most important and effective. For example, while research is clearly established——

Senator CHILES. Doctor, you skipped a part there where you say in your statement, "—the effectiveness of prenatal care for improving fetal health and reducing low birth weight is unclear."

Is there some reason you skipped that?

Dr. MASON. I am trying to make my testimony more concise for time.

Senator CHILES. I just wonder how that line got in your statement to start with. I was hoping you had struck it. It is pretty clear, is it not, that prenatal care has a lot to do with improving low birth weight?

Dr. MASON. You are absolutely right. We are talking about the components, what we need to build into quality prenatal care. That is what is unclear, not the value of prenatal care. So I don't think we disagree there at all. What can we do to prenatal care to make a difference? We are interested in the outcome, and that is where we see the lack of clarity.

For example, while researchers clearly established smoking to be the most important known risk factor for low birth weight, we have, at present, limited knowledge to affect smoking behavior, especially among those at highest risk for low birth weight. This is also true for behavior relating to alcohol, to drugs, to teenage pregnancy and unwanted pregnancy. All of those are complexities that we need to effectively deal with if our prenatal care is going to have an effect upon outcome.

Nevertheless, if we are to succeed in preventing untoward outcomes, any intervention must begin in the prenatal period. Yet in 1983, only 76 percent of all women having a live birth entered prenatal care in the first trimester. Furthermore, only 62 percent of black mothers began care in the first trimester, compared to 79 percent of white mothers.

Effective methods to optimize women's utilization of the health care system such as seeking prenatal care early or adhering to the scheduled prenatal care visits are needed, and we need to help women comply with the kind of instructions and information they are going to get during those prenatal care visits.

Now, in the remainder of my time, I will briefly outline some of the activities that are under way within the Health and Human Services Department.

First of all, the Secretary established a black and minority health task force in 1984, which included a Subcommittee on Infant Mortality. The task force provided recommendations on Federal service and research programs in order to narrow health differences between minorities and whites and suggested ways in which the public and private sectors could cooperate to bring about improvements in the health status of minorities. The Secretary has established a new office under my direction to help implement the recommendations in the report.

Second, a PHS low-birth-weight prevention work group was established early in 1984. This group is comprised of representatives of HHS agencies and it is chaired by the Director of the Division of Maternal and Child Health and cochaired by the Director of the National Institute of Child Health and Human Development. This group has broad responsibility for providing scientific analysis and coordinating infant mortality and low-birth-weight prevention activities.

The Public Health Service administers programs relating to maternal and child health, and I won't go into the facet of the block grants, the community health centers, migrant health projects, and the Indian Health Service and its activities to lower the problem. The National Health Service Corps has been placing substantial numbers of obstetricians and pediatricians to provide direct services in underserved at-risk areas.

In addition to these PHS efforts, other programs, such as Medicaid, devote substantial resources to improving infant health. With regard to research, the National Institute of Child Health and Human Development has implemented special research initiatives focused on the prevention of low birth weight and its etiology. The Division of Maternal and Child Health is supporting studies relating to utilization of prenatal care involving Medicaid, Medicare, and other systems that are used to help pay for these services.

Data efforts are underway. The National Center for Health Statistics is now studying the logistic and methodological problems involved in creating a national system which links infant death and birth records. Such a system is crucial to our ability to effectively monitor trends and identify high-risk populations. I won't go to other data efforts in terms of time.

In the role of encouraging expanded public and professional communication, we have activities such as the Healthy Mothers and the Healthy Babies Coalition. Each PHS regional office sponsored infant mortality conferences during 1984 and 1985, tailored to the problems and needs of each region. Many State action plans were developed as part of these recent meetings.

To this substantial list of activities, I would like to add the provision of technical assistance and consultation to State and local health agencies which is going on. We are assigning epidemiologists to States to beef up the epidemiologic capacity of State, maternal, and child health programs.

Finally, the Public Health Service is assembling teams of health professionals, referred to as infant mortality review teams, to provide, upon request, expert assistance to States in reviewing infant mortality and morbidity data.

Senator CHILES. How many of those teams have we got, Doctor?

Dr. MASON. I have to ask Dr. Hutchins.

Dr. HUTCHINS. There have been three visits made.

Senator CHILES. Three visits? How many teams are there?

Dr. HUTCHINS. We put the team together for each State that requests a visit, so the teams are made up of people from the Public Health Service as well as consultants from outside the Government. And the three that we have done so far have not had the same composition.

Dr. MASON. We can provide that consultation to all 50 States, if those requests come in.

Senator DURENBERGER. Simultaneously?

Dr. MASON. Not simultaneously.

Senator DURENBERGER. That is probably his question.

Senator CHILES. Three in what period of time?

Dr. HUTCHINS. Since midsummer of this year.

Dr. MASON. But we have responded to all those requests that we have received, is that not true?

[Dr. Hutchins nodded affirmatively.]

Dr. MASON. There are not easy answers to reducing infant mortality and preventing low birth weight. These are national, State, and community problems, requiring efforts of all segments of our society for a solution.

Over the years, numerous efforts by both the public and private sectors have been directed toward the resolution of maternal and infant health problems. That is why we are delighted to be here today to share our ideas and direct our energies to assure healthy pregnancies and improve our children's chances for a healthy birth and a healthy life.

Thank you, Mr. Chairman.

Senator DURENBERGER. Thank you very much. I will let Lawton get to his questions, the ones that he may have left. [Laughter.]

I have been sitting here trying to figure you out. If the President were here, I have already figured him out. [Laughter.]

I know how I would ask my questions. I would say from my previous experience with the Public Health Service and with several of you individuals, that you really mean what you say. I mean, you are doing your best. You keep finding better ways to do things. and you try to get the things done that need to get done.

So it strikes me as somehow a little unfair, to jump too hard on you because you are the one that has to make the statement that we don't need a commission.

And yet, you seem to have handled some of Lawton's little interruptions pretty well. I wonder if maybe you don't really believe that we don't need to mobilize this country, not just the Public Health Service, not just HHS, not just the infant mortality review teams but the whole country to deal with this problem.

Because the reality is, you are absolutely right: Technology in this country, in which we have poured billions of dollars, is bringing 1 pound people into this world.

So this great technology and all these billions of dollars have presented us with a unique problem in the history of society. It strikes me that if everybody in the country understood the nature of the problem and some of the contributing factors, that you could more easily get people ginned up to do something about it.

If I understand something about what the Senator is contemplating with a national commission, it is really to get the majority of the people in this country to care about 42,000 situations a year, which is almost an unobservable statistic, in this country of 232 million people.

So yes, you can keep going after the 42,000 and you can keep sending your teams out.

Why do you personally feel that we shouldn't do something more visible to focus the people of this country on the fact that they have to devote some resources to helping us solve this problem of mortality and morbidity?

Dr. MASON. Can I respond to that?

Senator DURENBERGER. Yes, of course. It was a question, it wasn't a statement. [Laughter.]

Dr. MASON. I agree totally that we need to do something, but often, a national commission is an easy solution. Everyone sits back and says, "Now we have created a national commission, and we don't need to worry about it down in community X, Y or Z."

Senator DURENBERGER. You wouldn't do that. You wouldn't lie back, would you? Would you go to sleep for 12 months while this commission operated?

Dr. MASON. Well, that is one of the fears with the Secretary's Black and Minority Task Force, and with working out a lot of things that we have going, the working at the local level. I don't want anyone to lie back and say, "Well, let's wait and see."

Senator CHILES. Doctor, do I impress you as somebody that is looking for an easy solution and looking for this commission to be an easy solution?

Dr. MASON. I am just answering that we need to be careful.

Senator DURENBERGER. That is one of your objections.

Dr. MASON. We have a lot of governments.

Senator DURENBERGER. That people will lie back. What else other than that?

Dr. MASON. We have a lot going for us. Where this problem is going to be engaged is not just at the Federal level. I agree that the Federal Government has significant, a highly significant role.

But what is needed is getting the States, getting the communities, getting the cities, getting the counties to say what is going on is unacceptable.

Senator DURENBERGER. That is right.

Senator CHILES. Absolutely.

Senator DURENBERGER. And I went to Detroit—and I use Detroit as an example—a couple of months ago, and we have got some people from Michigan here. I met with the hospital administrators. They told me about the $100 million-plus of uncompensated care in the hospitals, and they are scared to death because we are using competition and consumer choice to get competition in the hospital.

The administrator of hospitals in Detroit said, "Senator, do you know what the largest killer of children was in America last year?"

I said. "No, what is it?"

He said, "Poverty. Ten thousand kids died of poverty," he said.

Now, I am the only one that knows that. Now a few more people do, but the country doesn't understand it that way. They think it is something else. It is a black, or a Southern problem.

But here is a person who is saying it is poverty. Maybe it is only 9,500 that died of poverty. Maybe you could argue that it isn't poverty, it is something else.

But if you say it is lack of education, I wonder if that doesn't have something to do with poverty. If you say it is hunger, the lack of nutrition, I wonder if that doesn't have something to do with poverty.

I could say it is environmental, around the mother, and I wonder if a lot of that doesn't have something to do with poverty. Then I would say, in an intergovernmental sense, why is it that in certain parts of the country, why is it that in urban areas, why is it that in certain populations we see this problem presented in much greater detail than in other populations?

It seems to me to come back to poverty. Whenever it comes back to poverty, I wonder if you are the right person to represent the administration. Maybe it is because you care about all these kids. Maybe it ought to be somebody that doesn't care about poverty in this country. Maybe it is somebody who believes people ought to vote with their feet, and, "If you don't like it here, go someplace else."

Maybe you are not the right person to speak for the administration; maybe it is somebody who can tolerate using deficits to cut the legs out from under State and local government efforts to do something about this.

Don't you think poverty has quite a bit to do with prenatal care and the lack of prenatal care?

Dr. **Mason**. I mentioned in my testimony that this is a very complex issue. It does not depend just on availability of prenatal or tertiary care. It depends upon all of the items that you talked about. We couldn't be in better agreement.

Senator **Durenberger**. Lawton?

Senator **Chiles**. Thank you, Mr. Chairman. Again, let me say that perhaps I am railing out at you, Doctor, and you might not be the person I should be railing at. I don't know who you had to clear your statement with or what you had to do on that versus your personal concern. The concern of your team for trying to provide good care may be something that is very strong.

But I will have to say from my education, which is late to this field of understanding, I am ashamed of our country. I am ashamed of a country that has the resources and is blessed with all of God's gifts that this country has a record so abysmal in this area.

I am impatient to see that we do something about it, and by gosh, I am going to see with other people that are concerned about this, too, that we do do something about it. I can't stand it when I hear someone say, "This is a very complicated problem; it is going to take a long time to get to the bottom of it, "when we know that we don't need to study low birthweight.

We know what the principal offender is, and we know, with giving some kind of education and a little nutritional help, we can do so much about low birthweight. When I go to Liberty City and I see the death rate in that city among blacks in that portion of Miami is one of the highest that we have in the State, it is double, more than double what the State average is. And yet we have got one lady there that set up a program, and she has reduced it to two per 1,000 in her program, and she has very few bucks to do it. But she is educating those young black girls. She is telling them what they need to eat. She is telling them that they shouldn't smoke, that they shouldn't drink. She is giving them a screening process. And so she has gone from more than double the national average in the rest of the city down to two.

It is a cost-effective program. It works. It can be done, and the question is, how in the world do we get that coordinated across the country? I think the National Government has got to play a role in that. I don't think we can stick our heads in the sand and say, "That is a State and local problem."

Dr. **Mason**. I agree with you, totally. I think what we are disagreeing about is the process, not the outcome. When someone becomes concerned at the local level and gets things organized, things really happen. You are absolutely right.

Senator **Chiles**. But you say in your statement, "We need to be about the task of acting on what we know."

Doctor, I don't think we are about that task. I don't think anybody is in charge or anybody is about that task.

Tell me, is there a coordinated plan now to get this information out, to bring together the State and local governments, to convince those people that this is cost effective as well as humane; that it makes sense for us as a country; that we don't want to create this morbidity problem out there where we have to care for these children that survive. We have the machines that we can put them on for the first 28 days, but then we care for those, take care of those children and put them in the welfare system and the other systems and pay for them the rest of their lives.

This makes sense. I can sell it to the rankest conservative or the bleeding heart liberal, because it makes sense for both sides. But there is no attack plan.

Dr. **Mason**. There is within the Public Health System a coordinated attack plan, and I agree with——

Senator **Chiles**. What the hell good does it do within the Public Health System if it isn't out there in the world?

Dr. **Mason**. What I am saying, we are delivering it out there. We cannot act as comprehensively as Senator Durenberger has said, because we are only one department of the Federal Government, I agree that poverty certainly is more far reaching than health alone.

But from a standpoint of Public Health Service outreach, I think all of the activities that we are undertaking—such as meeting with State health officers and local health officers—show that that part of the plan is well in place.

Senator **Chiles**. Doctor, it is county commissioners that are holding up the funds. It is State senators who think that they should not be spending the money that are holding up the funds. It is city leaders who don't want to see their elected officials putting out some more money there if they think it is going to be wasted.

Are we getting to those people? You are dealing through your bureaucracy, through your health officials, and we don't see the charts changing that much. Do we see the numbers? Are we going to meet the Surgeon General's goal of 9 deaths per 1,000 by 1990. Do you think that, truly believe that?

Dr. MASON. We project about 9.2 deaths per 1,000 so no, we won't reach the 1990 goal. We are going to be a little above that.

Senator CHILES. I am glad you at least felt we weren't going to reach the nine, because I don't think there is any way we are going to reach the 9 per 1,000.

Dr. MASON. The goal for minorities is 12.5 deaths per 1,000 and we are not going to reach it.

Senator CHILES. And it should be, because we see the figures, as I stated in my statement, are actually going the other way since 1950, and we see these charts up here. That is something, again, as a nation that we have got to be tremendously concerned about, the red line showing our black infant mortality, and we see that was coming down. But now we are beginning to see the leveling on that chart.

So we are not making progress, and as you said in your statement, the progress that we are making was more in our medical technology than in the other things that we have to do something about, low birthweight. We have not made the kind of progress in low birthweight that we have made by being able to have the machines and being able to keep the infants alive longer through technology.

Senator DURENBERGER. Is there a reason why you are going to fall substantially short of the Surgeon General's goal with regard to black mothers than the other average?

Dr. MASON. I think you have outlined the reasons. It is all of those issues that surround poverty. We see the effect today of tobacco affecting women more than it ever has before—aspects of alcohol, drugs, unwanted pregnancy, teenage pregnancy—a whole series of complex social issues.

Senator CHILES. Part of that, I think, can be shown on this low birthweight chart, Mr. Chairman. If you look at that, you will see that the chart for blacks literally is not going down at all on low birthweight. That is two-thirds of our problem or more, is the low birthweight infants.

Dr. MASON. I want to say that concerning these statistics, we are in total agreement. The Nation needs to know that we are not disagreeing over which way this is going and how it ought to go.

Senator CHILES. We are not arguing over the numbers, Mr. Chairman.

Senator DURENBERGER. No, we are not arguing over the numbers.

Senator CHILES. Mr. Chairman, I know we have got a lot of other witnesses. I thank the panel for coming. I would have to say that this sort of statement here reminds me a little of the street poem that goes like this:

"The home team was in quite a bind.
"It was the fourth quarter, and they were still behind.
"But a chant came from the crowd and it was persistent, and it was loud. 'Give the ball to Calhoun, give the ball to Calhoun.'
"But a hush over the crowd did fall when the quarterback shouted back, 'Calhoun say he don't want the ball.' " [Laughter.]

Senator **Durenberger**. Are you going to give Howell Heflin credit for that? [Laughter.]

Are you going to take credit for that yourself?

Dr. **Mason**. Senator, we want part of the ball. We want the health part of it.

Senator **Durenberger**. For the record, Doctor, and for all of you, there is a series of questions that, as Lawton said, for sake of time we could not ask.

Senator **Chiles**. I have some, Mr. Chairman.

Senator **Durenberger**. Senator Chiles has some, and I will have some. They will deal with things we haven't done as a Federal Government that you, I think, would urge us to do, and we haven't done them because, "we don't have the money" at the Federal level.

I had the experience with regard to the so-called tobacco tax of suggesting what Lawton was getting at with what he said about county commissioners and city councils in places like Miami who are burdened with revenue squeeze and illegal immigrants and are having to decide between 100,000 people over here and 1,000 over there, and then are deciding in favor of the 100,000.

But I had the experience of suggesting that if we are going to raise the tobacco tax, we take 8 cents of it and add it, in effect, to the maternal child health block grant and related program groups. We then could send it back to the State and local governments.

To that extent, could I get any help from the administration? Of course not. Of course not. I couldn't get any help. Did I get any help on modifying Medicaid so that those county commissioners who had to spend this Medicaid money could spend some money on smoking prevention for mothers without having to spend money on education for Medicaid recipients? Did I get some help from the administration saying, "Right on, Senator, do it"? Hell, no, because it cost $40 million to do it.

So they said, "You can't do that, then."

I have a list of questions that I can only send you because you are the guy that showed up here. So I would like all five of you to put your heads together and try to respond, without—and I don't know whether you have to clear answers to questions with OMB or somebody else. Isn't it like if you were here, you don't have Jim Miller or somebody else to clear this stuff with. [Laughter.]

So if we could do the questions and answers without having to clear them with somebody else, I think it would make for a more complete record. I don't know whether it helps Lawton and his proposal to go along this line, but those are the kind of questions for the records of the Intergovernmental Relations Subcommittee that I need to have.

Thank you all very much for being here. I appreciate it a great deal.

Dr. **Mason**. Thank you for inviting us.

[Dr. Mason's prepared statement, with attachments, and responses to written questions from Senators Durenberger and Chiles follow:]

PREPARED STATEMENT OF JAMES O. MASON, M.D.

MR. CHAIRMAN AND MEMBERS OF THE COMMITTEE.

I AM HERE TODAY TO DISCUSS AN ISSUE OF GREAT CONCERN TO OUR NATION -- INFANT MORTALITY. I AM ACCOMPANIED BY DR. VINCE HUTCHINS OF THE DIVISION OF MATERNAL AND CHILD HEALTH, HEALTH RESOURCES AND SERVICES ADMINISTRATION; DR. HEINZ BERENDES OF THE NATIONAL INSTITUTE OF CHILD HEALTH AND HUMAN DEVELOPMENT, NATIONAL INSTITUTES OF HEALTH; DR. JOEL KLEINMAN OF THE NATIONAL CENTER FOR HEALTH STATISTICS; AND DR. JAMES MARKS OF THE CENTERS FOR DISEASE CONTROL.

MY TESTIMONY TODAY WILL OUTLINE THE MAJOR TRENDS IN INFANT MORTALITY AND RELATED STATISTICS IN THE U.S., THE FACTORS AFFECTING SUCH TRENDS, AND THE ACTIVITIES OF THE DEPARTMENT OF HEALTH AND HUMAN SERVICES IN THESE AREAS. SOME OF THE CHALLENGES I WILL BE HIGHLIGHTING HAVE BEEN WITH US FOR SOME TIME AND OTHERS ARE OF MORE RECENT ORIGIN. THESE ISSUES HAVE BEEN CAREFULLY EXAMINED NUMEROUS TIMES BY MANY INVESTIGATORS, TASK FORCES, AND PROMINENT ORGANIZATIONS AS WELL AS BY THE DEPARTMENT. UNDERTAKING YET ANOTHER COMMISSION TO STUDY THE PREVENTION OF INFANT MORTALITY AS PROPOSED BY S. 1209 SEEMS OF LITTLE VALUE. THEREFORE, THE ADMINISTRATION OPPOSES THIS LEGISLATION BECAUSE THE PROPOSED COMMISSION IS UNNECESSARY. WE NEED TO BE ABOUT THE TASK OF ACTING UPON WHAT WE KNOW AND SEEKING NEW KNOWLEDGE TO FILL THE GAPS IN OUR UNDERSTANDING IN ORDER TO ACHIEVE FURTHER PROGRESS.

NATIONAL TRENDS IN INFANT MORTALITY

THERE ARE 52 MILLION WOMEN OF REPRODUCTIVE AGE IN THIS COUNTRY AND 3.6 MILLION BIRTHS. THE PROVISIONAL INFANT MORTALITY RATE FOR 1984 IS 10.6 DEATHS PER 1,000 LIVE BIRTHS, THE LOWEST RATE YET RECORDED.

WHILE WE CAN BE PROUD OF THIS ACHIEVEMENT, OUR WORK IS BY NO MEANS FINISHED. THERE REMAINS A DISPARITY BETWEEN BLACK AND WHITE INFANT SURVIVAL RATES, AND MOST RECENTLY, THE LATEST NATIONAL DATA INDICATE A SLOWDOWN IN THE RATE OF DECLINE OF INFANT MORTALITY.

THE INFANT MORTALITY RATE AMONG BLACK INFANTS CONTINUES TO BE ALMOST TWICE THAT OF WHITE INFANTS. IN 1983, THE LATEST YEAR FOR WHICH RACE-SPECIFIC DATA ARE CURRENTLY AVAILABLE, THE NATIONAL INFANT MORTALITY RATE WAS 11.2 DEATHS PER 1,000 LIVE BIRTHS. THE INFANT MORTALITY RATE FOR WHITE INFANTS WAS 9.7, WHILE IT WAS 19.2 FOR BLACK INFANTS.

DURING THE DECADE OF THE SEVENTIES THE AVERAGE ANNUAL DECLINE IN THE INFANT MORTALITY RATE WAS 4.5 PERCENT. IN CONTRAST, PROVISIONAL DATA FROM 1983 THROUGH THE FIRST SIX MONTHS OF 1985 SHOW THAT INFANT MORTALITY DECLINED BY AN AVERAGE OF LESS THAN THREE PERCENT.

WE RECOGNIZE THAT FACTORS AFFECTING INFANT MORTALITY ARE VERY COMPLEX. THESE FACTORS INCLUDE DEMOGRAPHIC, MEDICAL, PHYSICAL, ENVIRONMENTAL, EDUCATIONAL, BEHAVIORAL, ATTITUDINAL, AND RESOURCES. AT THIS POINT, WE CAN SAY THAT THE MAJOR IMPROVEMENT IN INFANT MORTALITY IS ATTRIBUTABLE TO ADVANCES IN NEONATAL INTENSIVE CARE AND WE BELIEVE THAT THE RECENT TRENDS MAY, IN PART, BE THE RESULT OF CHANGES IN THE INFANT'S AGE AT DEATH.

OVER THE PAST DECADE, THE NEONATAL MORTALITY RATE (INFANT DEATHS UNDER 28 DAYS) HAS DECLINED FASTER THAN THE POSTNEONATAL MORTALITY RATE (THOSE INFANT DEATHS BETWEEN 28 DAYS AND 1 YEAR). REGIONALIZATION OF PERINATAL SERVICES, THE TECHNOLOGY OF NEWBORN INTENSIVE CARE UNITS, AND MORE ACCESSIBLE PRENATAL CARE HAVE CONTRIBUTED TO THESE IMPROVED RATES. FINAL DATA FOR 1983 INDICATE THAT THE NEONATAL RATE CONTINUES TO SHOW A SUBSTANTIAL DECLINE. HOWEVER THE POSTNEONATAL MORTALITY RATE INCREASED TO 3.9 FROM A RATE OF 3.8 IN 1982. THE FACTORS UNDERLYING THIS CHANGE ARE ALSO BEING INVESTIGATED. IT MAY BE THAT WITH IMPROVEMENTS IN SURVIVAL OF LOW BIRTH WEIGHT NEONATES THROUGH NEONATAL INTENSIVE CARE, A HIGHER PROPORTION OF THE LOW WEIGHT INFANTS SURVIVE THE NEONATAL PERIOD AND ARE AT INCREASED RISK OF DEATH IN THE POSTNEONATAL PERIOD. PRINCIPAL THREATS TO INFANT SURVIVAL IN THE POSTNEONATAL PERIOD ARE SUDDEN INFANT

DEATH SYNDROME (SIDS), CONGENITAL ANOMALIES, ACCIDENTS, AND INFECTIONS. THE LATTER TWO CAUSES WOULD SEEM THE MOST AMENABLE TO PREVENTION.

NATIONAL TRENDS IN THE INCIDENCE OF LOW BIRTHWEIGHT (LBW)

WE HAVE LONG RECOGNIZED THE RELATIONSHIP BETWEEN INFANT MORTALITY AND LOW BIRTH WEIGHT, THAT IS WEIGHING LESS THAN 2500 GRAMS. MORE THAN TWO-THIRDS OF DEATHS IN THE NEONATAL PERIOD OCCUR AMONG LBW INFANTS. THE LINK BETWEEN BIRTH WEIGHT AND DEATH IN THE POSTNEONATAL PERIOD IS LESS PRONOUNCED, BUT STILL SUBSTANTIAL. LOW BIRTH WEIGHT INFANTS ARE SEVERAL TIMES MORE LIKELY THAN NORMAL BIRTH WEIGHT INFANTS TO DIE LATER IN THE FIRST YEAR AND MORE THAN 20 PERCENT OF POSTNEONATAL DEATHS OCCUR TO LBW INFANTS. THE VARYING RATES OF LOW WEIGHT BIRTHS AMONG SUBGROUPS ARE A MAJOR CONTRIBUTOR TO THE DIFFERENCES IN INFANT MORTALITY FOUND PARTICULARLY AMONG BLACKS.

IN 1983, 6.8 PERCENT OF BIRTHS IN THE U.S. WERE LBW. THIS REPRESENTS ONLY A 14 PERCENT DECLINE SINCE 1970. THERE HAS BEEN NO CHANGE IN THE LBW RATE SINCE 1980. AGAIN, BLACKS ARE MORE THAN TWICE AS LIKELY AS WHITES TO DELIVER A LOW BIRTH WEIGHT INFANT (12.6 VERSUS 5.7 PERCENT RESPECTIVELY). EVEN

WHEN SEVERAL FACTORS SUCH AS AGE, MARITAL STATUS, MONTH PRENATAL CARE BEGAN, AND EDUCATIONAL LEVEL ARE CONTROLLED SIMULTANEOUSLY, BLACK WOMEN CONTINUE TO BE TWICE AS LIKELY AS WHITE WOMEN TO HAVE LOW BIRTH WEIGHT INFANTS.

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THERE IS LITTLE QUESTION AS TO THE VALUE OF QUALITY PRENATAL CARE IN CONTRIBUTING TO THE HEALTH OF PREGNANT WOMEN AND PREVENTING OR REDUCING THE COMPLICATIONS OF PREGNANCY AND LABOR SUCH AS ECLAMPSIA, BUT THE EFFECTIVENESS OF PRENATAL CARE FOR IMPROVING FETAL HEALTH AND REDUCING LOW BIRTH WEIGHT IS UNCLEAR. WE NEED TO BETTER UNDERSTAND THE SYSTEM FOR EFFECTIVE DELIVERY AND THE COMPONENTS OF PRENATAL CARE THAT ARE MOST IMPORTANT AND EFFECTIVE. FOR EXAMPLE, WHILE RESEARCH HAS CLEARLY ESTABLISHED SMOKING TO BE THE MOST IMPORTANT KNOWN RISK FACTOR FOR LOW BIRTH WEIGHT, WE HAVE AT PRESENT LIMITED KNOWLEDGE TO AFFECT SMOKING BEHAVIOR ESPECIALLY AMONG THOSE AT HIGHEST RISK FOR LOW BIRTH WEIGHT.

NEVERTHELESS, IF WE ARE TO SUCCEED IN PREVENTING UNTOWARD OUTCOMES, ANY INTERVENTION MUST BEGIN IN THE PRENATAL PERIOD. YET, IN 1983, ONLY 76 PERCENT OF ALL WOMEN HAVING A LIVE BIRTH ENTERED PRENATAL CARE IN THE FIRST TRIMESTER. FURTHERMORE, ONLY 62 PERCENT OF BLACK MOTHERS BEGAN CARE IN THE FIRST TRIMESTER COMPARED TO 79 PERCENT OF WHITE MOTHERS. EFFECTIVE METHODS TO OPTIMIZE WOMEN'S UTILIZATION OF THE HEALTH CARE SYSTEM SUCH AS SEEKING PRENATAL CARE EARLY OR ADHERING TO THE SCHEDULED PRENATAL CARE VISITS ARE NEEDED. THERE ARE SEVERAL PROJECTS UNDERWAY INVESTIGATING THIS ISSUE.

ACTIVITIES

IN THE REMAINING MOMENTS, LET ME HIGHLIGHT SOME OF THE IMPORTANT DHHS ACTIVITIES AND STRATEGIES DIRECTED TO IMPROVING REPRODUCTIVE OUTCOME AND INFANT HEALTH.

- THE SECRETARY ESTABLISHED A BLACK AND MINORITY HEALTH TASK FORCE IN 1984, WHICH INCLUDED A SUBCOMMITTEE ON INFANT MORTALITY. THE TASK FORCE PROVIDED RECOMMENDATIONS ON FEDERAL SERVICE AND RESEARCH PROGRAMS IN ORDER TO NARROW HEALTH DIFFERENCES BETWEEN MINORITIES AND WHITES AND SUGGESTED WAYS IN WHICH THE

PUBLIC AND PRIVATE SECTORS COULD COOPERATE TO BRING ABOUT IMPROVEMENTS IN THE HEALTH STATUS OF MINORITIES. THE TASK FORCE REPORT WAS RELEASED OCTOBER 16TH. THE SECRETARY HAS ESTABLISHED A NEW OFFICE UNDER MY DIRECTION TO HELP IMPLEMENT THE RECOMMENDATIONS IN THE REPORT.

o A PHS LOW BIRTH WEIGHT PREVENTION WORK GROUP WAS ESTABLISHED EARLY IN 1984. THIS GROUP IS COMPRISED OF REPRESENTATIVES OF HHS AGENCIES AND IS CHAIRED BY THE DIRECTOR, DIVISION OF MATERNAL AND CHILD HEALTH (DMCH) AND CO-CHAIRED BY THE DIRECTOR, NATIONAL INSTITUTE OF CHILD HEALTH AND HUMAN DEVELOPMENT (NICHD). THIS GROUP HAS BROAD RESPONSIBILITY FOR PROVIDING SCIENTIFIC ANALYSIS AND COORDINATING INFANT MORTALITY AND LOW BIRTH WEIGHT PREVENTION ACTIVITIES. FOR EXAMPLE, THROUGH CAREFUL SURVEILLANCE AND CLOSE COLLABORATION AMONG THE INTERDISCIPLINARY EXPERTS ON THIS GROUP, EARLY SUGGESTIONS OF A CHANGE IN THE RATE OF REDUCTION OF THE INFANT MORTALITY RATE WERE RECOGNIZED AND THIS GROUP BEGAN TO CONSIDER AND IMPLEMENT SOME OF THE NEWER ACTIONS I WILL NOW DESCRIBE.

SERVICE ACTIVITIES

THE PHS ADMINISTERS SERVICE PROGRAMS AND THE MATERNAL AND CHILD HEALTH BLOCK GRANT.

- THROUGH THE MATERNAL AND CHILD HEALTH (MCH) BLOCK GRANT, EACH STATE RECEIVES FEDERAL SUPPORT TO PROVIDE MATERNAL AND CHILD HEALTH SERVICES BASED UPON THE STATES' OWN NEEDS AND PRIORITES. GRANTS FOR SPECIAL PROJECTS OF REGIONAL AND NATIONAL SIGNIFICANCE (SPRANS) ARE ALSO FUNDED BY TITLE V IN ORDER TO TARGET GAPS IN THE SERVICE SYSTEM TO IMPROVE HEALTH STATUS OUTCOMES FOR MOTHERS AND CHILDREN.

- COMMUNITY HEALTH CENTERS, MIGRANT HEALTH PROJECTS AND THE INDIAN HEALTH SERVICE ALSO PROVIDE PRENATAL CARE TO SPECIAL POPULATIONS AND MEDICALLY UNDERSERVED PREGNANT WOMEN.

- THE NATIONAL HEALTH SERVICE CORPS (NHSC) HAS BEEN PLACING SUBSTANTIAL NUMBERS OF OBSTETRICIANS AND PEDIATRICIANS TO PROVIDE DIRECT SERVICES IN UNDERSERVED AT-RISK AREAS.

IN ADDITION TO THESE PHS EFFORTS, OTHER PROGRAMS SUCH AS MEDICAID DEVOTE SUBSTANTIAL RESOURCES TO IMPROVING INFANT HEALTH.

RESEARCH AND DATA ACTIVITIES

IN ADDITION, DHHS SUPPORTS RESEARCH AND DATA COLLECTION AND ANALYSIS ACTIVITIES.

RESEARCH

- THE NATIONAL INSTITUTE OF CHILD HEALTH AND HUMAN DEVELOPMENT (NICHD) HAS IMPLEMENTED A SPECIAL RESEARCH INITIATIVE FOCUSED ON THE PREVENTION OF LBW AND ITS ETIOLOGY. CURRENT ACTIVITIES INCLUDE:
  - SUPPORTING A MULTI-CENTER CLINICAL TRIAL TO ESTABLISH WHETHER ASYMPTOMATIC GENITOURINARY INFECTIONS INDUCE PREMATURE LABOR AND THE EFFECT OF ANTIBIOTIC TREATMENT ON THESE INFECTIONS IN PREVENTING PREMATURITY.

-- ORGANIZING NETWORKS OF 6-10 LEADING OBSTETRIC MATERNAL-FETAL MEDICINE UNITS AND 6-10 NEONATAL INTENSIVE CARE UNITS THAT WILL BE ESTABLISHED TO FACILITATE CONDUCT OF CLINICAL TRIALS OF NEW THERAPIES THROUGH USE OF COMMON PROTOCOLS TO TRANSLATE RESEARCH RESULTS INTO CLINICAL INTERVENTIONS IN SUCH AREAS AS PREVENTION AND MANAGEMENT OF PREMATURE RUPTURE OF FETAL MEMBRANES, MANAGEMENT OF PREMATURE LABOR, AND MANAGEMENT OF MULTIPLE PREGNANCIES.

o THE DIVISION OF MATERNAL AND CHILD HEALTH (DMCH) IS SUPPORTING STUDIES RELATED TO UTILIZATION OF PRENATAL CARE.

-- ONE TO DETERMINE WHETHER DIFFERING LEVELS OF MEDICAID/AFDC COVERAGE AFFECT USE.

-- ANOTHER TO DEVELOP SPECIFIC METHODOLOGIES TO INVESTIGATE BEHAVIORAL ISSUES ASSOCIATED WITH ENTERING PRENATAL CARE.

-- PLANS ARE IN PROGRESS FOR AN INVESTIGATION TO DETERMINE OPTIMAL PRENATAL CARE AND THE BEST MEANS TO DELIVER IT.

DATA EFFORTS

- A NATIONAL SYSTEM WHICH LINKS INFANT DEATH AND BIRTH RECORDS IS CRUCIAL TO OUR ABILITY TO EFFECTIVELY MONITOR TRENDS AND IDENTIFY HIGH RISK POPULATIONS. THE NATIONAL CENTER FOR HEALTH STATISTICS (NCHS) IS NOW STUDYING THE LOGISTIC AND METHODOLOGIC PROBLEMS INVOLVED IN CREATING SUCH A NATIONAL SYSTEM OF LINKED RECORDS. CURRENT PLANS ARE TO HAVE AN ONGOING NATIONAL SYSTEM OPERATIONAL BY 1987.

- IN THE INTERIM, SPURRED BY THE IMPORTANCE OF THE INFORMATION FROM LINKED BIRTH AND DEATH RECORDS AT THE NATIONAL LEVEL, THE PHS INITIATED A NATIONAL INFANT MORTALITY SURVEILLANCE JOINTLY SPONSORED BY THE CENTERS FOR DISEASE CONTROL (CDC), NICHD, NCHS, AND DMCH. THIS SYSTEM WILL PROVIDE A MEASURE OF SURVIVAL LIKELIHOOD FOR SPECIFIC BIRTHWEIGHT CATEGORIES AND MATERNAL CHARACTERISTICS FOR EACH STATE AND THE NATION AS A WHOLE. A NATIONAL CONFERENCE FOR STATE MCH AND VITAL REGISTRAR STAFF CONSIDERING THE IMPLICATIONS OF THESE DATA IS PLANNED FOR SPRING 1986.

- IN ADDITION, THE CDC, DMCH, AND NICHD PROVIDE EPIDEMIOLOGIC AND ANALYTIC ASSISTANCE AT THE REQUEST OF STATES AND LOCAL HEALTH AUTHORITIES.

PUBLIC AND PROFESSIONAL COMMUNICATION/EDUCATION

IN THE ROLE OF ENCOURAGING EXPANDED PUBLIC AND PROFESSIONAL COMMUNICATION, ACTVITIES INCLUDE:

- HEALTHY MOTHERS, HEALTHY BABIES (HM,HB) COALITION - IN ADDITION TO THE EFFORT TO DEVELOP PUBLIC EDUCATION MATERIALS DIRECTED TOWARD LOW INCOME WOMEN TO PROMOTE HEALTHY BEHAVIORS, CURRENT EMPHASIS IS DIRECTED TOWARD THE DEVELOPMENT OF STATE COALITIONS TO PROMOTE RELEVANT ACTIVITIES AT LOCAL LEVELS. MASS MEDIA MATERIALS ARE BEING PROVIDED TO THESE STATE COALITIONS TO CONDUCT LOCALLY RELEVANT PRENATAL CARE CAMPAIGNS.

- EACH PHS REGIONAL OFFICE SPONSORED INFANT MORTALITY CONFERENCES DURING 1984 AND 1985 TAILORED TO THE PROBLEMS AND NEEDS OF EACH REGION. MANY STATE ACTION PLANS WERE DEVELOPED AS PART OF THESE MEETINGS.

TECHNICAL ASSISTANCE AND CONSULTATION

TO THIS SUBSTANTIAL LIST OF ACTIVITIES I WOULD LIKE TO ADD OUR PROVISION OF TECHNICAL ASSISTANCE AND CONSULTATION TO STATE AND LOCAL HEALTH AGENCIES.

- IN VIEW OF THE HEIGHTENED PROBLEMS IN THE AREA OF PREGNANCY AND INFANT HEALTH, A NEW ORGANIZATIONAL UNIT HAS BEEN ESTABLISHED WITHIN THE DMCH TO PROVIDE ADDITIONAL RESOURCES FOR ASSISTANCE IN THIS PROGRAM AREA. THE MATERNAL AND INFANT HEALTH BRANCH WILL HAVE RESPONSIBILITY FOR THE PROVISION OF EXPERT CONSULTATION AND TECHNICAL ASSISTANCE AND THE ANALYSIS AND INTERPRETATION OF DATA AND INFORMATION WHICH RELATE TO INFANT MORTALITY AND PERINATAL HEALTH CARE.

- OVER THE YEARS, DMCH AND THE HEALTH CARE FINANCING ADMINISTRATION (HCFA) HAVE COLLABORATED TO DEVELOP GUIDANCE MATERIALS FOR STATE MEDICAID AND STATE MCH STAFFS.

- IN THE FIELD, ONE OF THE ACTIVITIES SPONSORED BY DMCH AND CDC IS THE PLACEMENT OF AN EPIDEMIOLOGIST TO PROVIDE NEEDED ANALYTIC AND EVALUATIVE CAPABILITY IN THE STATE MCH PROGRAM IN SOUTH CAROLINA. IN THE NEXT FEW YEARS WE HOPE TO EXPAND THIS OPPORTUNITY IN AN EFFORT TO BUILD THE EPIDEMIOLOGIC CAPACITY OF STATE MCH PROGRAMS.

- AND FINALLY, THE PHS IS ASSEMBLING TEAMS OF HEALTH PROFESSIONALS, REFERRED TO AS INFANT MORTALITY REVIEW TEAMS, TO PROVIDE, UPON REQUEST, EXPERT ASSISTANCE TO STATES IN REVIEWING INFANT MORTALITY AND MORBIDITY DATA AND INVESTIGATING THE CONDITIONS, E.G., MEDICAL, PUBLIC HEALTH, SOCIAL, BEHAVIORAL, ENVIRONMENTAL AND SYSTEM FACTORS, ASSOCIATED WITH HIGH OR CHANGING INFANT MORTALITY. THUS FAR, TWO PLANNING VISITS TO SOUTH CAROLINA AND MISSISSIPPI AND A STATE PERINATAL REVIEW IN ILLINOIS HAVE BEEN COMPLETED. REQUESTS FROM OTHER STATES ARE CURRENTLY BEING PROCESSED. THE SCOPE OF ACTIVITY VARIES FROM A VERY TARGETED INFANT DEATH INVESTIGATION OR CASE APPROACH TO A BROAD REVIEW OF STATE PROGRAMS. OUR GENERAL APPROACH IS DESIGNED TO ASSIST STATE AND LOCAL HEALTH DEPARTMENTS IN GAINING A BETTER UNDERSTANDING OF THE NATURE OF THE DIFFICULTIES IN REDUCING INFANT MORTALITY AND TO GATHER PRECISE INFORMATION CONCERNING LOCAL MATERNAL AND INFANT HEALTH CARE SYSTEMS AND OPPORTUNITIES FOR IMPROVEMENT.

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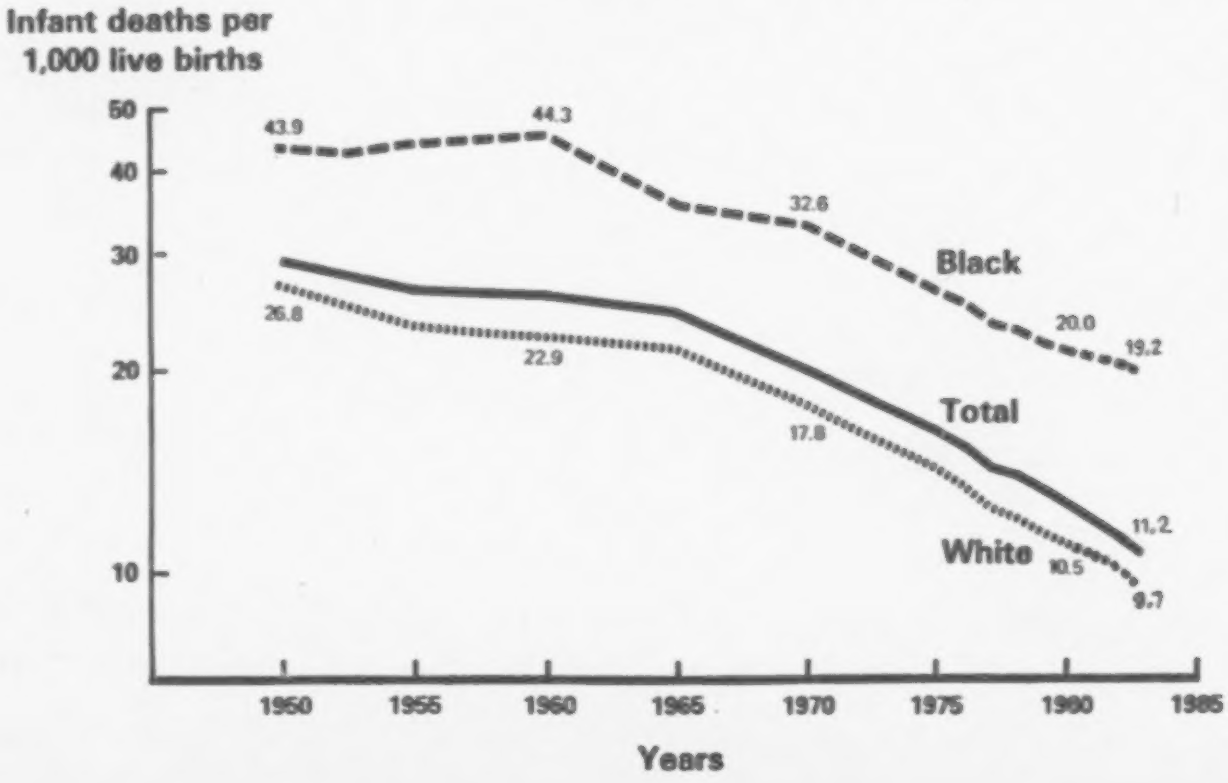
THERE ARE NO EASY ANSWERS TO REDUCING INFANT MORTALITY AND PREVENTING LOW BIRTH WEIGHT. THESE ARE NATIONAL PROBLEMS REQUIRING EFFORTS OF MANY SEGMENTS OF OUR SOCIETY FOR SOLUTION.

OVER THE YEARS, NUMEROUS EFFORTS BY BOTH THE PUBLIC AND PRIVATE SECTORS HAVE BEEN DIRECTED TOWARD THE RESOLUTION OF MANY MATERNAL AND INFANT HEALTH PROBLEMS. THAT'S WHY WE ARE HERE TODAY - TO SHARE OUR IDEAS AND DIRECT OUR ENERGIES TO ASSURE HEALTHY PREGNANCIES AND IMPROVE OUR CHILDREN'S CHANCES FOR A HEALTHY BIRTH AND HEALTHY LIFE.

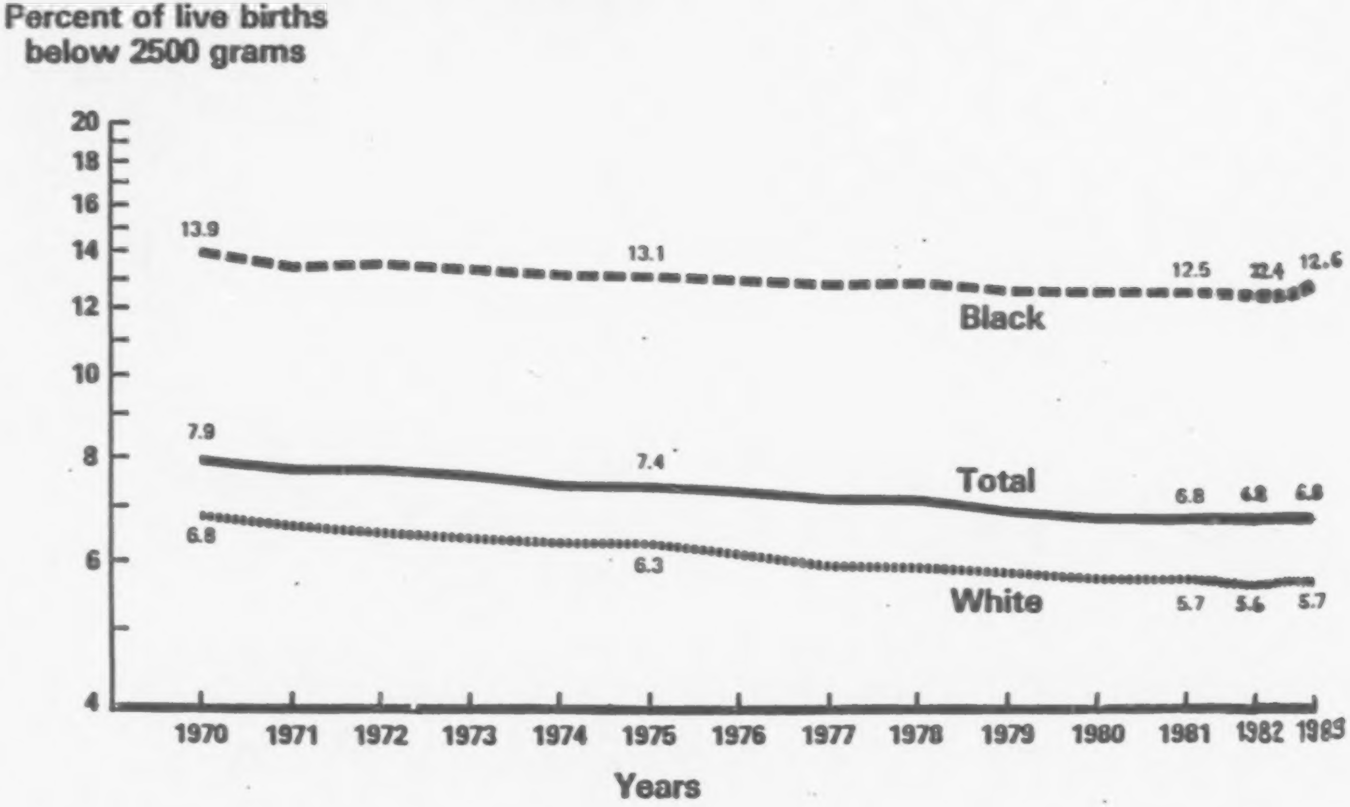
INFANT MORTALITY RATES

1950-83



LOW BIRTH WEIGHT RATIOS

1970-83



RESPONSES TO WRITTEN QUESTIONS FROM SENATOR DURENBERGER

Question 1:

What happens to the critically ill newborns who survive the neonatal intensive care? How many are developmentally disabled? What is the cost for taking care of these kids?

Answer:

Babies who receive care in neonatal intensive care units (NICU's) obviously represent a concentration of extremely high-risk patients. The number of "critically ill" newborns who are discharged from NICU's and survive the newborn period is not known on a national basis. We are making an attempt to collect and analyze the limited information available on these children. The report "Alternatives to Hospitalization for Technology Dependent Children," is being completed by the Maternal and Child Health sponsored project, "Future Directions of State CCS Programs". This project, which is conducted by the Iowa Crippled Children's Program, summarizes information from a small number of states which have programs for these children , such as the number of children served and costs of care in these programs. Their report should be available by January and will summarize the limited available data. It is our understanding that the Congressional Office of Technology Assistance is also pursuing a study on this population.

No cost data are available at this time. Several grantees of the Division of Maternal and Child Health's Special Projects of Regional and National Significance (SPRANS) are pursuing this question in terms of national data sets available and in terms of a pilot study of six selected conditions, including the developmental disability of mental retardation and the chronic illnesses of hemophilia, spina bifida, and cystic fibrosis.

QUESTION 2:

I read recently that Secretary Heckler requested an additional $134 million in funding to reduce infant mortality in her budget request for FY 1987. What plans do you have for these additional funds? Are you likely to get them?

ANSWER:

As you know, the budget development process in the Executive Branch is confidential and determinations are not released until the budget is submitted to Congress early next year. Proposals and recommendations for fiscal year 1987 remain tentative at this time.

We can say, however, that reduction of national infant mortality rates has been a major initiative of the Public Health Service since the 1990 Objectives for the Nation were compiled in 1980. Current and future research efforts will be directed at low birth weight, sudden infant death syndrome, birth defects and pregnancy complications. In addition, more work will be done over the next several years in compiling comprehensive infant mortality data, surveying more intensely high risk populations, building better epidemiologic capacities in maternal and child health agencies, and preventing smoking during pregnancy.

RESPONSES TO WRITTEN QUESTIONS FROM SENATOR CHILES

Question 1:

You have mentioned that HHS is concentrating on the problem of infant mortality by helping states improve their data collection and by supporting a national healthy mothers healthy babies campaign. Could you tell us how much the operating budgets for each of these efforts is and how much staff people are involved in each ? How many states have you helped in data collection?

Answer:

A variety of coordinated activities have been undertaken with respect to helping States improve their data collection surrounding perinatal events. These range from:

> the Centers for Disease Control's efforts which include surveillance (nutrition, infant mortality, birth defects) activities, technical assistance regarding surveillance and research surveillance methods in 38 States using approximately 31 staff at an estimated cost of 1.4 million dollars,
>
> to the National Center for Health Statistics' activities related to the ongoing 9 States feasibility study (described more fully in Question 8) involving 1 FTE at a cost of $50,000 and to the technical assistance provided to all States regarding registration methods and the improvement in registration of births and infant deaths,
>
> to the Division of Maternal and Child Health's efforts which include supporting 8 grants focused on developing or improving data collection methods and systems which actively involve 21 States and 2 grants relating to all 50 states and D.C. at an approximate cost of 2 million dollars.

The Public Health Service, a founding member of the four-year-old Healthy Mothers, Healthy Babies Coalition, supports the Coalition's Executive Secretariat under a grant of approximately $90,000 for FY86. An additional $42,000 has been proposed for direct support of the Healthy Mothers, Healthy Babies national campaign along with a staff commitment of approximately one FTE.

Question 2:

We are all aware of the excellent and timely report done by the prestigious Institute of Medicine on preventing low birthweight. In this report, several recommendations were directed to HHS. Are you aware of them? For example, one of the recommendations was for HHS to convene a task force charged with defining a system for making prenatal care fully available to all pregnant women. This would not necessitate new funds, but would use in-house resources. Has HHS followed this recommendation? If not, do you plan to in the future? Another of the IOM recommendations to HHS was to have the Division of Maternal and Child Health define a model of services to be used in publically financed facilities providing prenatal care. Has this been done? Have any of the IOM suggestions been acted upon? If not, why?

Answer:

We are well aware of the recommendations from the report "Preventing Low Birthweight" by the Institute of Medicine (IOM). The Public Health Service (PHS) Low Birthweight Prevention Work Group has reviewed the recommendations and a number of actions have been taken:

Ensure Accessibility to Prenatal Care

- o Fund demonstration programs/remove financial barriers -
  - a multidimensional program to promote Effective Pregnancy and Infant Care (EPIC) was initiated by the Health Resources and Services Administration. Under this initiative the Division of Maternal and Child Health (DMCH) awarded approximately $3 million dollars in FY 85 for new projects focused on improving State level services and the delivery system for pregnancy and infant care. Five projects are directed toward removing barriers (financial and non-financial) to prenatal care and facilitating access.
  - support for the Southern Regional Task Force on Infant Mortality is being provided by the DMCH. The Task Force has identified model initiatives - options available under existing Federal programs and other creative State programs - within these 19 States which pertain to improving access to prenatal care and preventing infant mortality.
  - the DMCH and the Health Care Financing Administration (HCFA) are exploring issues surrounding Medicaid waivers and other eligibility options for the perinatal population. Guidance materials are being developed jointly to assist States interested in applying for a waiver or looking for other options. The first guidance piece will focus on the 1915(b) "Freedom of Choice" waivers and their applicability to perinatal services.

- Support pertinent training -
  - a commitment to promoting the availability of nurse-midwives is evident through the support of nurse-midwifery training programs by Title V and Nurse Training Act funds.
- Provide prompt technical consultation regarding prenatal services -
  - technical assistance upon request regarding prenatal care and service has always been part of the PHS mission. Examples of recent consultation visits include the following:
    - at the invitation of the State of Illinois and City of Chicago, a Perinatal Consultation Team (comprised of Federal and non-Federal members) went to Illinois in August to review services and systems of care for mothers and infants, with particular attention paid to the population with limited or no access to health care.
    - at the invitation of the Governor of Arkansas, a team visited the State in September to provide consultation regarding provision of risk-appropriate prenatal and delivery care.

Improving the Content of Prenatal Care

- Define a model of services -
  - when developing materials for the health professional or the health care system on standards or models of care, we rely in the main on standards set by pertinent professional organizations. A current perinatal initiative in the Bureau of Health Care Delivery and Assistance focuses on increasing the availability of high quality prenatal care services in the publicly funded Community Health Centers and Migrant Health projects. Policies stipulated for this initiative require that prenatal services provided conform to the Standards for Ambulatory Obstetrical Care of the American College of Obstetricians and Gynecologists. A description of minimum expectations for what services should be provided and options for structuring and supporting a comprehensive perinatal service within a total system of perinatal care is presented in "Perinatal Care: How to Establish Perinatal Services in Community Health Centers" published in August 1985. A companion document due to be published in 1986 "Reducing Perinatal Risks in Rural Areas: A Provider's Manual," will focus on rural providers and will also discuss model services.
- Establish high priority for research on smoking and pregnancy -
  - in FY 1986 the Centers for Disease Control will be pilot testing in one State smoking cessation programs in public prenatal clinics to determine the effectiveness and feasibility of such programs in reducing a very important known risk factor affecting low birth weight.

- o Assess content of and encourage change in prenatal care -

  - four regional Consensus Conferences on Access to Prenatal Care and Low Birth Weight, sponsored by the DMCH and the March of Dimes Birth Defects Foundation, are planned for early 1986. The conferences are designed to identify (1) the strategies to reduce the nonfinancial barriers to prenatal care and (2) the components of prenatal care most effective in reducing the incidence of LBW and determine their health policy implications. Conference participants will be selected from a wide array of experts in both private and public sectors. Attention will be given to including individuals having experience working with populations at risk for accessing prenatal care.

  - the PHS Low Birth Weight Prevention Work Group is planning a meeting to explore efficacious components of quality prenatal care. The projected date of the meeting has been tentativly scheduled for the Spring of 1986.

  - the PHS Low Birth Weight Prevention Work Group is developing questions on prenatal care content to be recommended for inclusion in the 1988 National Natality Follow-Back Survey to be carried out by National Center for Health Statistics.

Question 3:

We discussed the differences in white and black infant mortality rates in this country. I have also been told that white Americans, when compared with white Europeans of similar social and economic backgrounds, still have a higher rate of infant mortality. Why is this?

Answer:

In 1982, the United States ranked 14th in infant mortality among countries with at least 1 million population and complete counts of live birth and infant deaths. Although nine European countries achieved lower rates, there were also several European countries with higher rates (e.g., East and West Germany, Belgium, Italy, and Greece). It is primarily the Scandinavian countries which have substantially lower infant mortality rates than the U.S. (Finland, Sweden, Norway, and Denmark). It is difficult to obtain reliable data comparing white Americans with "white Europeans of similar social and economic backgrounds." However, in a study of 1980 live births and infant deaths from nine States in the U.S., the Centers for Disease Control found that the infant mortality rate among white women 20 years of age and over with 13 or more years of education was 7.4 per 1,000. In 1980, the overall infant mortality rates were 6.9 for Sweden, 7.6 for Finland, 8.1 for Norway, and 8.5 for Denmark. Furthermore, several studies have shown that the higher infant mortality rate in the U.S. is due to a higher incidence of low birth weight babies. On a birth weight specific basis, the U.S. has among the lowest infant mortality rates in the world.

QUESTION 4:

You mentioned in your testimony that you have issued a report on minority health. How does this report specifically address the black/white gap in infant mortality? What knid of budget and staff have you given this effort?

ANSWER:

As I indicated in my testimony, the Secretary's Task Force on Black and Minority Health recently completed its study and issued a report. This report, entitled Volume I: Executive Summary (copy enclosed), summarizes the work and findings of the Task Force, including the Infant Mortality and Low Birthweight Subcommittee. A complete report of the Subcommittee is in production and is expected to be published in the near future. The Subcommittee specifically addressed the issue of the disparity between blacks and Whites in terms of infant mortality. This disparity exists despite the fact that the infant mortality rates for both groups are at their lowest levels ever for the U.S. The complete Subcommittee report addresses a number of sources of that disparity including reproductive patterns, use of prenatal care, and the incidence and survival of low birthweight babies. In addition to an analysis of current data, the complete Subcommittee report develops an extensive set of recommendations relating to the disparity in infant mortality by race/ethnic groups.

An Office of Minority Health is being established in the Office of the Assistant Secretary for Health to oversee implementation of the study's recommendations. A total of $3 million will be available for the operation of the office.

Question 5:

One of the problems S.1209 hopes to address is the lack of coordination among federal programs which already exist to work on infant mortality. Could you tell us what coordination is there between the Department of Health and Human Services offices which run Medicaid, Title V and family planning? What about those HHS divisions which operate programs affecting maternal and infant health? What coordination exists between the programs I just mentioned and the extra efforts you mentioned in your testimony, such as healthy mothers healthy babies and the infant mortality review teams? What coordination is there between HHS programs and the USDA programs which make a real impact on low birthweight such as WIC and extension services?

Answer:

The HHS has established a number of coordinating mechanisms to maximize efficiency and minimize redundancy relating to maternal and child health programs. The first is the Public Health Service Low Birth Weight Prevention Work Group. This group is comprised of representatives and experts in maternal and infant health from the Health Resources and Services Administration (HRSA), National Institutes of Health (NIH), National Center for Health Statistics (NCHS), Centers for Disease Control (CDC), Alcohol, Drug Abuse and Mental Health Administration (ADAMHA), Food and Drug Administration (FDA), Office of the Assistant Secretary for Health (OASH), and the Health Care Financing Administration (HCFA). The Work Group is co-chaired by the Director of the Division of Maternal and Child Health (DMCH) and the Director of the National Institute of Child Health and Human Development (NICHD). This group is charged with the broad responsibility for providing scientific analysis and coordinating infant mortality and low birth weight prevention activities. The Work Group meets regularly to share ideas and program information and to develop joint activities relating to low birth weight prevention and infant mortality reduction.

A second coordinating mechanism focuses around the 1990 Objectives for the Nation. For each priority area, such as Pregnancy and Infant Health (PIH), a lead agency and HHS cooperating agencies are identified. As part of the recent Mid-Course Review of the 1990 Objectives, these cooperating agencies examined each objective (including the objective promoting early registration for prenatal care) to assess progress, identify factors enhancing or impeding progress and determine measures to overcome problems. The agencies involved include: Health Care Financing Administration; Indian Health Service; Division of Maternal and Child Health; National Institutes of Health; Health Resources and Services Administration; Centers for Disease Control; Alcohol, Drug Abuse and Mental Health Administration; and Office of the Assistant Secretary for Health (National Center for Health Statistics, Office of Population Affairs, National Center for Health Services Research, Office of Public Affairs). Among the agencies collaborating on the 1990 Family Planning Objectives are the Division of Maternal and Child Health and the Office of Population Affairs.

There are also other examples of collaboration and joint efforts among Federal programs affecting maternal and infant health:

- The DMCH and HCFA have collaborated to develop regulations and guidance materials for State Medicaid and State MCH staffs over the years. The most recent activity regarding eligibility requirements and perinatal programs is described in the answer to Question 2.

  In addition, the two agencies are co-sponsoring a research activity to determine the effect of differing levels of Medicaid/AFDC coverage on prenatal care utilization.

- The OASH sponsored regional conferences on infant mortality during 1984 and 1985. Participating in this effort were the DMCH, HCFA, Office of Family Planning, Office of Adolescent Pregnancy Programs, Centers for Disease Control, and the Office of Public Affairs/OASH.

- In the HHS Regional Offices, the Maternal and Child Health and Family Planning Programs frequently are administered in the same division or branch. Day to day program efforts are brought together in this fashion.

- The BHCDA Perinatal Initiative identified in the answer to Question 2 has been jointly developed by the Divisions of Primary Care Services, Maternal and Child Health and the National Health Service Corps.

- The DMCH, the Office of Special Education and Rehabilitative Services, and the National Institute of Mental Health have initiated and continued a number of collaborative efforts to assist in the development of early identification and intervention programs for infants and children with disabilities or at risk for disabilities.

- DMCH and other PHS agencies are supporting the Healthy Mothers, Healthy Babies Coalition activity (see discussion on secretariat in Question 2). Staff members from six USDA, NIAAA, FDA, NIDA, NIH, CDC, DMCH, HCFA, OASH, OAPP actively participate in the work of the six subcommittees (Substance Use in Pregnancy, Oral Health, Breastfeeding, Genetic Screening, Adolescent Pregnancy, and Low Income Women).

- The Work Group, applying the knowledge of multidisciplinary problem solving to state program development, initiated Infant Mortality Review Teams (IMRTs). The IMRTs are teams of health professionals that will provide, upon request, expert assistance to States in reviewing infant mortality and morbidity data and investigating the conditions associated with high or changing infant mortality. This effort is expected to bring about a coordinated approach to problem identification using analytic expertise and problem resolution through Block Grant and Medicaid coordination at the State level. Beyond the development of the IMRTs, the Work Group provides input and direction for the implementation of the IMRT activity. Membership on recent team visits to South Carolina and Mississippi has been drawn from various agencies, including the CDC, NCHC and DMCH.

Coordination Activities of HHS and the Department of Agriculture (USDA) Related to Infant Mortality and Prevention of Low Birth Weight

Historically, there has been on-going coordination between several HHS programs and USDA programs that affect mothers, infants, children and families. Coordination activities with the WIC program have included: pre-WIC activities related to design of a supplemental food program to support maternity and infant care projects and state programs; the establishment on a collaborative basis of on-going mutual support; design of food packages (WIC); participation on national advisory committees; interagency agreement on development of Regional office support systems USDA/PHS; and attendance and participation in continuing education workshops and conferences relating to state/regional WIC system design and technical/education efforts to enhance knowledge, networking, and improved implementation plans for prenatal and child health services. Recent workshops have included: "A Right to Grow, Region I ; Perinatal Nutrition, Region II, and Region IV - Southeastern Conference of all states and related agencies to focus on nutrition services needs. The intent is to strengthen collaborative efforts, knowledge, and networking to improve services.

In the area of Nutrition Education - The Joint USDA/DHHS Committee for Maternal and Child Nutrition Publications (Extension, WIC, Headstart, NICHD, DMCH, IHS) meets regularly to coordinate and collaborate on publications needed to enhance nutrition priorities which include emphasis on nutritional needs of pregnant teenagers to promote early entrance into prenatal care, and good counseling. Food for the Teenager During and after Pregnancy - a joint publication - USDHHS/USDA/March of Dimes Birth Defect Foundation has been distributed (100,000) at state/local levels. Over 25,000 educational packets for professionals including guides for nutrition educators, outreach suggestions, and posters (fetal development) have been made available to health care providers in a collaborative effort by the 3 agencies since 1982.

Technical References: The reference, Alternative Dietary Practices and Nutritional Abuses in Pregnancy, developed by the National Academcy of Sciences with funding from DMCH, provides a valuable resource for professionals and agencies, and has formed a basis for past program efforts with USDA - including a National Tele-A Conference which focused on substance abuse during pregnancy and related effects on birthweight of infants.

Extension Service USDA - provides for local/regional resources in coordination of care. For example, cooperation is ongoing in many state/local prenatal clinics to provide for home followup and assistance in referral to early prenatal care for low income populations. This is particularly true at county level.

Increasing efforts on data collection as a basis for planning nutrition and health services especially as related to Healthy People, - Objectives for the Nation - which includes emphasis on prevention of low birthweight babies has resulted in several collaborative efforts among agencies and states. For example: a recent National Conference on Data - Objectives for the Nation - included several key Federal data systems experts from NCHS, CDC, USDA to examine systems from several state-based clinic programs including DMCH, WIC, EPSDT, CHC, Migrant lead screening, and other child health programs. Prenatal weight gain trends and birthweights are reflected in these low income populations which lead to improved program services evaluation and interventions.

The WIC program and other child nutrition programs are integrated into clinical sites at Community Health Center, Migrant Services, State Child Health and Prenatal Services, which includes DMCH supported systems. Services on either or site or referral systems are in place from these related programs to maximize care and resources.

Question 6:

There has been concern voiced in the health care community that the National Center for Health Statistics (NCHS) does not have a good system in place to report on key health status indicators such as infant mortality. Do you plan any improvements in the reporting system to make more accurate and timely the data for States and localities to use?

Answer:

Infant mortality data are available from the National Center for Health Statistics in essentially two forms. First, in order to keep track of the data on a very current basis, the Center publishes provisional infant mortality rates which are available within 3 months. For example, the data for August 1985 were published on November 21, 1985. These provisional data are based on reports of birth and infant death certificates received at State Vital Statistics Offices on a monthly basis.

Final infant mortality rates are based on computerized data tapes aggregated from individual birth and death records received from the individual States. The Center then processes, edits, and combines these data to produce a national data set. In FY 1985, NCHS completed the Vital Statistics Cooperative Program for birth and death (demographic) data--for the first time receiving birth and death data on computer tape directly from all States and reporting areas. This will result in increased timeliness and data quality. For the 1986 data year, the Center expects to have the final data released within 18 months of the end of the year--considerably more timely than in the past.

It is important to note, however, that this schedule does not preclude States from compiling and analyzing their own data more rapidly. Indeed, one of the reasons for the time lag in publication of the national data is that the NCHS must wait until data from the slowest State is made available. Many States do, in fact, produce their own reports within a shorter timeframe.

Another important improvement in the data systems available for monitoring infant mortality is the national linked birth and death data described in question number 8.

QUESTION 7:

Obviously, one very important aspect of reducing the infant mortality rate is by stopping teenagers, who have a high rate of low birthweight babies, from having children. What are you doing to educate our country's teens not to have babies?

ANSWER:

There is no national sex education policy in the United States. Rather, the decision on what kind of sex education curriculum to adopt is made in individual States and school districts. This conforms to the general policy of State and local control over educational policy and curricula. Further, it insures that decisions about sex education are made with maximum input from parents and generally reflect local community standards.

Teen pregnancy is a complex issue that is unlikely to be solved by increased emphasis on sex education alone. Teen pregnancy is related to many changes in our society, such as increased divorce and changes in family composition, increased family mobility, and media messages which equate success and popularity with sex. Teen pregnancy reflects one form of the teen risk taking behavior that is also seen in the high rates of teen alcohol abuse, drug abuse and suicide. It is naive to think that we are going to find any quick or easy answer to the problem of teen pregnancy when these related problems and situations continue to exist.

The Department is, however, pursuing some areas that show promise toward alleviating the problem. In the Adolescrnt Family Life program, model demonstration projects emphasize delaying onset of active sexuality and encouraging parents to take on the role as primary sex educators of their children. This program is also supporting demonstrations which develop and provide services to pregnant and parenting teens, designed to meliorate the effects of too early childbearing on the teen mother and her infant, and to discourage subsequent teen pregnancies.

The Title X Family Planning program provides contraceptive services to more than 1.3 million sexually active teens annually, and the National Institute for Child Health and Human Development is supporting a major initiative which is focusing on those behavior factors that affect the ability of sexually active teens to practice contraception effectively.

Question 8:

Is HHS working on any plan to help States match birth and death records of babies to better ascertain the particulars of a baby's death?

Answer:

The National Center for Health Statistics is developing a national computerized file of infant death certificates linked to birth certificates. A pilot phase of this plan is currently being implemented in nine States (Illinois, Indiana, Massachusetts, Michigan, Missouri, New Hampshire, Vermont, Wisconsin, and Texas) in order to develop effective and efficient methods of linkage, especially for records involving different States of birth and death. Results of this study will be available by Summer 1986. If current plans proceed as expected, NCHS will have a national system of linked records available for the 1983 birth cohort by Fall 1987.

In 1982, the Centers for Disease Control (CDC) began an interim project to fill the existing data gap as expeditiously as possible. With support from the National Institute of Child Health and Human Development, the National Center for Health Statistics, and the Division of Maternal and Child Health, the Division of Reproductive Health, CDC, has worked with the Association of Vital Registrars and Health Statisticians, the Association of State and Territorial Health Officers, and the Association of State Maternal and Child Health Directors, to compile a report based on all 50 States, the District of Columbia, New York City, and Puerto Rico. This project, the National Infant Mortality Surveillance (NIMS) Project will result in a national report describing the maternal and infant factors related to birth weight that are associated with neonatal and postneonatal mortality.

A chief purpose of NIMS is to provide expertise to guide and assist the development of ongoing State and national surveillance and research on infant mortality. The amount of effort to participate in the NIMS project was not equal for all States. Some States already had linked record files and had the capacity to readily produce birth weight-specific infant mortality statistics. Other States, however, had neither linked record files nor the capacity to readily produce birth weight-specific infant mortality statistics, even if linked files were available.

CDC staff worked closely with State health department staffs to resolve a myriad of definitional and operational problems. This effort included over 500 individual telephone contacts for technical assistance before all States could respond with data. For States with comparatively poor or nonexistent systems for creating a linked birth-death data base, NIMS provided the impetus for the health department to invest the resources necessary to move forward with defining their infant mortality data needs and implementing or improving their data system. For States with comparatively good systems for creating a linked birth-death data base, NIMS provided an opportunity to re-examine definitions, linkage procedures, and data quality. In May 1986, lessons learned will be shared with representatives from vital registry departments and Maternal and Child Health Directors from all States at a NIMS Conference.

Quality of the matched records is also a concern at the State and national level. CDC, NCHS, and DMCH staff have worked extensively at the request of individual States to identify problems and develop methodologies for correcting them. Activities have included the following:

> Georgia: Documentation of underreporting of infant deaths for infants born weighing less than 1500 gms, and implementation of a tracking system to improve death reporting.
>
> Massachusetts: Examination of the completeness of fetal death reporting and the quality of cause-of-death reporting for fetal deaths, and implementation of a pilot study to improve the quality of fetal death reporting.

Finally, DMCH and CDC staff have worked with several States, including South Carolina, Mississippi, Georgia, Tennessee, and Missouri, and Region IV, to develop better usage of their existing files of linked birth and infant death records for program evaluation.

Senator DURENBERGER. I am now pleased to call forward Dr. George F. Bronsky, chief of clinical services, Department of Obstetrics and Gynecology, Providence Hospital, Washington, DC, accompanied by Robert A. Hutson, executive director, Center for Life, Providence Hospital, and Debi Mason and her son, Richard. Also appearing will be Dr. Edward Ehlinger, director of personal health services at the Minneapolis Health Department in Minneapolis, and Dr. Stanley Graven, who appeared in my subcommittee before in his capacity as professor of maternal and child health, College of Public Health, University of South Florida, Tampa, FL. Where is Stan? Mrs. Mason.

Your written statements, if we have them, will be made part of the record, and we will proceed with 5 minutes, if we can stay within the 5 minutes.

We start with Dr. Bronsky.

TESTIMONY OF GEORGE F. BRONSKY, M.D., CHIEF OF CLINICAL SERVICES, DEPARTMENT OF OBSTETRICS AND GYNECOLOGY, PROVIDENCE HOSPITAL, WASHINGTON, DC, ACCOMPANIED BY ROBERT A. HUTSON, EXECUTIVE DIRECTOR, CENTER FOR LIFE, PROVIDENCE HOSPITAL, AND DEBI MASON AND HER SON, RICHARD; EDWARD P. EHLINGER, M.D., DIRECTOR, PERSONAL HEALTH SERVICES, MINNEAPOLIS HEALTH DEPARTMENT, MINNEAPOLIS, MI; AND STANLEY N. GRAVEN, M.D., PROFESSOR, MATERNAL AND CHILD HEALTH, COLLEGE OF PUBLIC HEALTH, UNIVERSITY OF SOUTH FLORIDA, TAMPA, FL

Dr. BRONSKY. Good morning. I am Dr. George Bronsky, chief of clinical services in the department of obstetrics and gynecology of Providence Hospital.

On behalf of Providence Hospital, we want very much to thank you for allowing us to serve as your host this morning. We applaud you for holding these hearings on the critical issue of infant mortality.

We also applaud Senator Chiles and Senator Bentsen for their sponsorship of S. 1209 establishing a National Commission to Prevent Infant Mortality. We share your deep concern over the human suffering and financial burdens caused by America's high infant mortality rate, and we join in your desire that a national policy be designed to combat the problem.

Providence Hospital, the oldest hospital in Washington, was founded by the Daughters of Charity in 1861 with a charter signed by President Lincoln. In 1986, Providence will celebrate its 125th year of commitment to health care in the Nation's Capital, a tradition of caring that has always held as paramount both the dignity of life and the needs of the urban poor and underserved.

The most recent expression of Providence Hospital's service to the poor is the Center for Life, a unique health care outreach dedicated to providing positive, concrete alternatives for people facing medical or moral dilemmas that threaten the dignity of life.

The specific program I want to share with you today is the center's Reduced-Fee Maternity Program which provides prenatal and delivery care for women who have neither medical insurance coverage nor Medicaid eligibility. These are the so-called people who fall through the cracks, who must pay for their medical care out of pocket, care that today costs from $3,000 to $3,500 even for a normal pregnancy. Since the program was establised in 1977, some 2,200 women have delivered through the reduced-fee program. This translates to approximately 300 patients per year.

Senator Durenberger, I would like to commend you for your often repeated statements linking poverty and infant mortality. The wide majority of our reduced-fee maternity patients are in the high-risk category specifically due to their economic status. For example, a review of 1,400 deliveries from January 1981 to the present reveals that 40 percent of the mothers reported annual incomes of $5,000 or less—80 percent reported annual incomes of $10,000 or less. Two out of three were married couples, many with other children.

It is also important to note that many of these are families who make moderate incomes and are not indigent, but simply unable to afford the cost of medical insurance.

Each of the Center for Life reduced-fee patients pays on a sliding scale, based on income and dependents. Many pay only the base rate of $425; the overall average price is $700. This means that nearly $3,000 in hospital costs is contributed as uncompensated care on every case. Annually, this amounts to a maternity writeoff for Providence Hospital of nearly $1 million.

The need for this kind of maternity care is clear. A recent study showed that one in four women between the ages of 18 and 24 lack insurance coverage for maternity. Fifteen percent of women between the ages of 25 and 29 are also without coverage. These two groups alone account for 75 percent of all of the births in the United States.

And the need for this type of care is escalating. In 1982, we received about 800 inquiry calls for reduced-fee maternity care. By 1984, the number had more than doubled to 1,900 calls. The number in 1985 is most likely to approach 2,500 calls for reduced-fees maternity care. All of this activity is being generated solely by referrals from grass-roots pregnancy assistance agencies and by word of mouth. The hospital does no advertising for the reduced-fee maternity program, because the hospital can subsidize only 300 deliveries per year.

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While Providence Hospital's commitment to early, accessible maternity care remains constant, the resources needed to maintain that commitment are shrinking every year.

The health care system is undergoing revolutionary changes, as both private and public purchasers of health care services maneuver to control their own costs.

The result is that the economic cross-subsidies which in the past have enabled hospitals to meet valued societal needs, including health care for the uninsured and underinsured, are being eroded.

The simple fact is that Providence Hospital's ability to meet today's needs for prenatal care services for these women who are falling through the cracks, let alone tomorrow's needs, is directly threatened.

Let me return to the main point of this hearing, the reduction of infant mortality in this country. I want to share with you my observations as a perinatalogist, who specializes in the high-risk care of high risk pregnancies.

I cannot stress too strongly how critically important it is that adequate prenatal care be provided to mothers early in this pregnancies.

The central point of our testimony has been to demonstrate how the lack of financial resources forms a barrier for too many mothers in obtaining this vital care. If more pregnant women had access to adequate and early maternity care, we would not only avoid untold human suffering, but would also save millions of dollars in expensive neonatal care for such infants and mothers.

However, I would draw your attention to two additional factors which impact negatively on the problem of infant mortality and which should be given serious consideration.

The first factor relates to hospitals. Here, I would simply reiterate how difficult it is for a hospital like ours to maintain its strong commitment to affordable maternity care in the face of shrinking financial resources. The difficulties in providing this charity are increasing and will only get worse in the face of ever-tightening health care budgets.

The second factor is the decreasing pool of obstetricians available to provide prenatal care for people with limited resources. Many physicians will no longer accept Medicaid patients, because the reimbursement provided is less than the physician's cost to provide the care. Obstetricians are also operating in a malpractice climate in which the obstetrical patient at most risk of infant mortality is also the patient who presents the highest risk for medical liability claims. The result is that obstetricians are choosing not to accept these high-risk, high-liability patients or, in some cases, are dropping the obstetrical side of their practice entirely.

Senator **Durenberger**. That is another wonderful contribution that technology has given us, hasn't it: large losses.

Dr. **Bronsky**. In conclusion, I would like to express our gratitude to the subcommittee for honoring Providence Hospital and the Center for Life with its presence here today. We encourage the Congress to do all in its power to reduce and eliminate the barriers to adequate health care for pregnant women which contribute substantially to the high infant morality rate in the United States.

We here at Providence stand ready to assist in any way that we can, and we will be happy to answer any questions which you may have.

Senator **Durenberger**. Good. Thank you very much. Is anybody else going to have any comments?

All right. Ed, thank you for being here.

Dr. **Ehlinger**. Senator Durenberger, Senator Chiles, I am Dr. Ed Ehlinger. I am director of personal health services for the Minneapolis of the Minnesota Public Health Association and a member of the Minnesota Maternal and Child Health Advisory Task Force.

I appreciate the opportunity to be here today to talk about an issue that is very dear to me, and, one that is very important.

As you are well aware, the infant mortality rate has traditionally been used as one of the indicators of the health status of the Nation. Although it has its limitations, the infant mortality rate has proven to be not only a sensitive barometer of social and economic conditions within a country, but more importantly, an indicator of governmental commitment, to the health of children and pregnant women.

With the recent slowing of the improvement of the United States infant mortality rate and the realization that the United States' rate relative to other industrialized countries is getting worse, efforts have been initiated throughout the Nation to examine and deal with this significant problem.

Although Minnesota, as Senator Durenberger has pointed out, has the sixth lowest infant mortality rate among the 50 States, it has become obvious that certain groups in Minnesota are not sharing equally in the benefits of our health and social service systems. The extent of the problem in Minneapolis, one of the highest risk areas in the State, is highlighted in a report that I have attached to my written testimony.

The report demonstrates what you all know: That if you are poor, young, nonwhite, unmarried, uneducated, or have had inadequate prenatal care, the chances of your baby dying in the first year of life are two to four times higher than for mothers without those similar characteristics.

Approaches to the problem of infant mortality in Minnesota have been innovative and varied, and some of them are described in my written testimony. These include efforts by the Minnesota Coalition on Health Care Costs, the Minnesota Public Health Association, the Urban League, the Urban Coalition, the Minnesota Department of Health, and several HMO's and clinics.

One major effort to reduce the infant mortality rate has been undertaken by the Minneapolis Health Department, under the heading of Project LID—lower infant deaths. Project LID has initiated a review of matched birth and death records to identify the specific factors associated with infant deaths in Minneapolis. The project is also developing a media campaign to increase community awareness of the problem of infant mortality and developing a program to inform providers of social services of ways to address infant mortality. All of these efforts are being undertaken by a coalition of community agencies representing a cross section of Minneapolis residents.

A direct service activity of project LID is the Minority Child and Health Improvement Program, MinCHIP. The program, funded by the Northwest Area Foundation, targets two predominantly black neighborhoods in Minneapolis for neighborhood-based services to decrease adolescent pregnancy and improve infant health. The services include block nurses and peer-oriented parenting education. MinCHIP has been well received by the black community, and has stimulated other agencies serving minorities to initiate similar programs.

Project LID and MinCHIP are recent additions to long standing efforts at the Minneapolis Health Department to improve the health of children and pregnant women. Since the 1960's, the Department has provided prevention-oriented comprehensive maternity, family planning and childhood services with funding provided by Title V of the Social Security Act. Not only have these public health-oriented clinical programs demonstrated their ability to improve birth outcomes among high risk populations, but they have also served as a model for the development of other high quality maternal and child care services.

From these programs and from similar efforts thorughout the country, a clearer picture of the causes of infant mortality is starting to develop and some solutions are being identified.

It is becoming increasingly evident that the problems and the solutions are not primarily medical in etiology. The technical expertise exists to improve pregnancy outcomes, but expanded technology is expected to have only a minor effect on infant mortality rates. The major problem is access to the existing health services. Assuring universal access to reproductive and child health services would have a profound impact on infant mortality.

Working against universal access to health services are three major factors: One, widespread poverty and inadequate education that make health insurance coverage and employment unobtainable; two, multiple barriers that limit the health care options for some social and ethnic groups; and three, social policies that at best, place health care in a competitive mode and at worst ignore government's responsibility for the health of its citizens.

To eliminate these factors and make an impact on the problem of infant mortality, we need to shift our focus from the high cost, high technology medical aspects of health care to the prevention-oriented services like education, job training, nutrition, social supports and comprehensive prenatal care. We need to coordinate our prevention activities to avoid duplication and identify gaps in services. We also need a mechanism to share information for use in program planning, implementation, and evaluation. A National Commission to Prevent Infant Mortality could be beneficial in these areas.

Finally, we need to make a commitment to the children of this country. We need to make children our highest priority and protect them from the political and economic competition that pervades our health and human service systems. Children are completely dependent on us for their health, safety and development. We must serve as their protectors, teachers and advocates. We need to do this as individuals and as a society. The establishment of a National Commission to prevent infant mortality would be a positive step in accepting that responsibility.

The problem of infant mortality in this country is an issue of social justice. We are a nation wealthy with human and natural resources. We have the ability to improve the health of the most vulnerable segment of our population: Our children. However, to do that, we must choose to make children a priority and ignore the economic and political pressures to channel our resources elsewhere.

Children have placed their faith and trust in us. Their survival and growth depends on our acceptance of that responsiblity. To ignore that responsibility would be an injustice, not only to our children, but to our society.

Thank you.

Senator DURENBERGER. Ed, thank you. I am real proud of that statement.

Stan Graven.

Dr. GRAVEN. Thank you, Senator. I am Dr. Stanley Graven professor of maternal child health, University of South Florida in Tampa, and I also came here as a representative of the National Perinatal Association and its president, Sister Jean Myer, who is also of Tampa, FL. I would like very much to certainly echo the remarks that you have just heard which were very eloquently placed before you on the issue of infant mortality and the needs.

I have basically four points that I would like to make in this testimony. The written testimony is before you.

The first is that the rate is obviously unacceptably high, but more importantly, the disparities which have already been highlighted are very real. I know Senator Chiles, in his visit to Hillsborough County in Tampa, FL, got the evidence that even within the same racial group, white or black, between two census tracks, the disparity was absolutely unacceptable, and it is sitting there; it is in the data before everyone.

It isn't just black-white. It is a series of other kinds of issues, and we should not allow that sort of disparity to go on.

Second, the point has just been well made by several of my predecessors that it is not new technology that is needed. It isn't we don't need research and that there is a need for new knowledge, but the fact is that the changes that we wish to achieve in mortality rate and adverse outcome of pregancy can clearly be accomplished with the technology that is well in hand. It really is not technology, but it is making very basic services universally available, and that can be done.

There are many demonstrations. You have just heard of the demonstrations in Minneapolis that demonstrate that you can do that. I would like to cite two others. I recently completed my time as program director for the Robert Wood Johnson Foundation on a program called the Rural Infant Care Program, in which we worked with 10 projects, nine States, 37 counties, 37 counties with the highest infant mortality rates in the Nation, and were able to show that if you just intervene with the basic services, that those counties can have their mortality rates not only achieve the State average, achieve the national average, but many of them actually well exceed those averages in a period of just 2 or 3 years.

That entire change can come about, and it comes about not with high technoloagy, but making basic services available.

The third point I would like to make, of course, is the issue of cost, and as Senator Durenberger is so well aware, my initial look at this cost was taking Missouri data to the Minnesota Council on Health Care Costs to talk about, what does it cost to have preterm babies? I used an area of central Missouri which happened to be available to me to look at the cost of caring for an infant intensive care versis what it cost to take care of the mother while she was pregnant. The answer was from the 24th week to the 32d week, you save $100 an hour if you could just keep them pregnant and not deliver.

So you start to think what you do with $100 an hour. You figure out you can provide a lot of services for $100 an hour.

I have put the data base, at least the materials, in the testimony and certainly won't review that at this time.

Second, I am now involved in Tampa, FL, with a project the Junior League of Tampa has taken on, which is to reduce low birthweight in Tampa. Part of my contribution to the project has been to work and develop the data of the numbers, of where the people live who have that problem. In looking at that number, we came to the conclusion that if Hillsborough County, which in many ways is like Congressman Leland's Houston—I think it would have many corollaries—anyway, a rapidly growing city, a heavy public health code, an active private delivery system, that our low-birthweight rate is still way above the State's average, and the State of Florida has a higher rate than the Nation does. If Hillsborough County alone would just be able to get rid of, if you would, or displace the excess, taking if from above 8 percent to 6 percent, where many States and cities would go, the savings is in excess of $4 to $5 million in one county in 1 year. You can buy a lot of prenatal services for $4 million. Yet is is there.

These are the babies that are born, and I am just reporting 1983-84 in numbers, the cost is absolutely there.

Second, there is technology. I have to report that I have been in this business 25 years of neonatology and have lived through most of the technology, including the new ability to save the babies down to 500 grams or the 1 pound 1 ounce or the 1 pound, always understanding that it is done at incredibly high cost.

What people have forgotten is the miracle baby who weighed 1 pound and 4 ounces who was in the hospital 6 months, who finally went home; that a disproportionately large number of those children are now handicapped, have permanent neurological damage.

So the cost of the $100 an hour did not include the medical care for the damaged children for the next 5 years, 10 years, 15 years; the fact that they will need special education. Almost none of them will be employed and pay taxes, but they, in fact, will be lifetime care responsibilities of society or families.

It is, indeed, very expensive. I am here, as my fourth point, to strongly support the Commission. I think the idea of the focus is badly needed, and if the chairman would allow, I would like to direct a remark a bit of Dr. Mason and the group from the Federal Government, as well as to this committee. But those of us who do have gray hair and have been in this business awhile can well remember the discussions and the testimonies that occurred in the 1960's, in the early 1970's, about the dispartities in access to education for handicapped children.

There were school districts where kids got excellent education, and if you are handicapped, the system was there. In other places, there was no way you could get them. The Congress passed, 94-142, and every school district had to deal with it. Until they passed it, it was a deja vu of what we are describing now.

You have to have the National Commission to figure out how you make that sort of universal service available for mothers during pregnancy and infants, because we can't afford that any more than we could afford no education for handicapped kids. We cannot afford it, but it does, in fact.

We have one problem, and that is not all children lived in a school district so you could assign responsibility. I hate to be facetious, but all mothers who are pregnant live somewhere, it just doesn't happen to be in a jurisdiction that necessarily deals with their health during pregnancy. You have to figure that out.

I would also point out that the legislation was national. The implementation was local. Kids get educated locally.

Senator DURENBERGER. Thank you very much.

Lawton.

Senator CHILES. Mr. Chairman, I am afraid that I have to leave you here, and I regret it very much. Our Senate conferees on the debt conference started meeting at 11 o'clock. You know if we don't do something about it tomorrow, we don't pay people their checks. It fits in some way. Please excuse me.

I want to say to our distinguished panel we are delighted to have their testimony. Doctor, I thank you for your efforts in helping us, in helping educating me some in Florida, and we continue to call on you all as research personnel.

Doctor, we thank Providence Hospital for allowing us to be here.

Senator DURENBERGER. Thank you. Lawton, thank you very much for bringing us together here today. If it hadn't been for you, we wouldn't be here. If it hadn't been for you, we wouldn't be able to spend the time together.

Let me begin by asking the folks from Providence to deal also in an added dimension that I know Dr. Graven has addressed and I addressed in my opening statement, an added dimension to infant mortality, which includes infant morbidity.

From a hospital perspective, describe some of the missed opportunities or the problems that are faced in the hospital that lead us not only to the inevitability of infant mortality, but the problems of infant morbidity, as well. We have to put names on some of these kids: developmental disabilities and some of these kinds of problems. What is the dimension in the district that you see here from the eyes of Providence Hospital?

Dr. BRONSKY. I am not certain that I fully understand the question.

Senator **Durenberger**. I am making the distinction. We came here to talk about a Commission on Infant Mortality, which is kids that don't make it past the first year of life. I suggested that as I looked at the causes and found those same causes applicable to what is called infant morbidity, which is people who do live beyond that period of time but are sick, so sick that they add a substantial cost, if you will, to society's responsibilities to provide health, education, other services.

Is there a basic similarity in the causes of both infant mortality and morbidity?

Dr. **Bronsky**. I think that the phenomena of infant morbidity is universal throughout the world. Our success in reducing mortality has as its result an increase in morbidity and the long-term morbidity that accompanies low birthweight and very low birthweight.

I don't think that we can specifically identify an individual cause. We do know that the main impact that the health care system can have is in identifying all women with preexisting risk factors such as poor nutrition; whether it be overweight or underweight or inadequate nutrition; patients who have preexisting medical problems such as diabetes; thyroid conditions; heart conditions; women who have adverse health habits such as smoking; alcohol consumption; drug abuse. All of these factors, identified prior, ideally prior to conception, that is the emphasis that the obstetrical world is focusing on today, is preconception counseling.

If we can reduce these risk factors, we feel that will have a significant impact on the reduction of infant mortality, and as a consequence, a significant impact on the reduction of morbidity, long-term morbidity.

Senator **Durenberger**. So you see enough of a connection there that if we are going to create a National Commission that we probably ought to deal with both mortality and morbidity, or is there a reason to keep them separate?

Dr. **Bronsky**. I don't think you can separate the two. They are interconnected. One is a continuum of the other. They are not separable.

Senator **Durenberger**. What are your views on that, since you raised the subject?

Dr. **Graven**. Absolutely. I think in many ways, the cost of the now surviving small infant is far greater than the debt costs, and therefore, to deal with both mortality and the morbidity, we have to deal with reducing the number who come in, and your analogy to Oslo, Norway, where I had the privilege of living for a year, is just overwhelming: That we spend our time and our energy, dollars, and still don't get the outcome.

Senator **Durenberger**. I know we are sitting here in the middle of a big city and we have got most of our witnesses that are either dealing with big city problems and so forth, but half the people in this country live in some small town someplace or out on a farm. I wonder, Stan, if you wouldn't speak to this issue in terms of the access issue and some of the things that have been done or can be done in less populated parts of this country. How might that be different in terms of a national approach? Would our approach to people in that part of the country be somewhat different than the approach we might take in large urban areas?

Dr. Graven. Yes, Senator, I believe there is reason to distinguish, and while many of the problems are uncommon and, in a sense, you can say access is a serious issue, it is a serious issue for people in an urban area to get to where services are and can be a serious issue in the rural areas.

I think rural communities, rural areas, rural counties respond, deal, and work with their problems in ways that are different than we do in urban areas.

I think what the Robert Wood Johnson Program over the last 6 years has demonstrated is that being rural being sparsely populated, not having a lot of the services cannot be used as an excuse for not having good outcome of pregnancy. It ought to be possible in every county in the United States.

It can be done. We demonstrated that it can be done.

I would add one thing which hasn't been mentioned, but that is the very positive impact, in effect, from having the outreach workers, who reach people in their homes and help them solve a variety of health and nonhealth problems, and you are well familiar with their program that was in the Tangipahoa Parish north of New Orleans and another project up in the Peedee area of South Carolina, very compelling evidence that just the availability of someone to work with young mothers, high risk mothers, has a profound impact on the young.

Senator Durenberger. Dr. Ehlinger, you mentioned you broke out the problems here into three categories, poverty, and something to do with barriers, and then social policies. I think I understand the poverty category. I am not sure I understand the other two.

Would you elaborate a little bit on those two?

Dr. Ehlinger. One of the barriers that is present for racial and ethnic groups is that you need health care providers that know the situations from which people come. You need minority providers to deal with minority issues.

It has been shown throughout the country, with Minneapolis and Milwaukee being good examples, that by just having minority providers provide services to minority groups, access and use of those services has increased. Also, a lot of people don't speak English, and you need to have the ability to provide translators for those individuals.

Those are the kind of barriers that not only come from distance, transportation, but also from providers that are sensitive to the language and cultural backgrounds of the patients.

Senator Durenberger. Some of those aren't resolved overnight.

Dr. Ehlinger. No, this takes a lot of education of the providers and of the community. There is a back-and-forth iteration there.

Senator Durenberger. What about social policies?

Dr. Ehlinger. The social policies that I was talking about are that we are seeing, as you are well aware, the development of a competitive health care system, and pregnant women and children don't compete very well.

They don't have a lot of political power, and they don't have a lot of economic power. They don't have powerful advocates, and in a competitive system, not many people want to compete for them. In that case, they get left out.

I pointed out that we as a nation really need to act as their advocates, and regardless of the short-term economic benefits that can be accrued, we need to talk about long-term benefits.

In a competitive health care system, we look at the next quarter, the next year, how much money we can save over that period of time. When we are talking about pregnancy outcomes, we are looking at long-term cost savings. Those are harder to identify and harder to talk about.

The other part of that social policy issue is that I believe that there is a responsibility for government to have some concern for the health of its citizens. It is not just an individual responsibility. It is not just a local responsibility. It is the responsibility of individuals, local areas, States, and of the Federal Government to assure a healthy population. It is in our best interest to do so.

Senator **Durenberger**. Can any of you briefly describe for me current Federal programs that are sort of mistargeting resources? Is MCH just working terrifically and it is only a matter of more money? Medicaid, how is that working? On other federally funded programs?

It is a question which says, are we spending some of the money in the wrong places, or do we have regulations or mandates that are targeting it in the wrong area? What could we be doing within the existing Federal resources that are going these programs differently that would target them better?

Dr. **Ehlinger**. The focus in Medicaid on acute care is where most of the resources go. As you pointed out earlier, the focus on prevention is not there.

Senator **Durenberger**. Plus it is going to the elderly. If you really look at Medicaid, it is the nursing homes that are sucking a whole lot of that money out of the system, too, is that not correct?

Dr. **Ehlinger**. Right, and the shift to the elderly; over the last several years, has become a greater proportion of that pot. Less and less money is going to the children and pregnant women, and more is going to the elderly.

As far as the MCH block grant is concerned, it is nice to get money down to the local areas, but it is really State control, and they don't have enough resources to really identify or to deal with all of the problems. So they have to use the manure spreader approach and take a little bit of money and spread it over the countryside. The areas with highest needs don't get adequate resources to do the job that they need to do.

Senator **Durenberger**. Are you speaking of Minnesota, or do you think that is true all across the country?

Dr. **Ehlinger**. Various States have used different methods, but in many places, they have used the general distribution approach, which doesn't really allow targeting across all populations.

Senator **Durenberger**. Do any of you folks want to talk to the manure spreading?

Dr. **Graven**. In most States, in fact, the 10 or 12 that I have worked with, that would be the standard; that in general, while there is some intention to target, and I think some efforts in that direction, there are a lot of political pressures to distribute, even in small enough amounts that you really can do very little with it.

Senator **Durenberger**. So the notion of the block grant was sort of to get rid of the mandate. If it is not the part that tells you how you have to spend the money, that isn't all bad. But if you are doing it in the States rather than doing it down in the local communities, we are spreading it too much where it is not needed. Is that what I am hearing?

Dr. **Ehlinger**. Right. When the special projects of title V started in the 1960's direction was from the Federal Government down to the local level with a Federal delineation of what the priorities were. Local areas could then respond to the federally set priorities and you could really target.

Now there are no priorities, and the control is with the State health departments, and they respond to political pressures to distribute throughout the State without targeting in the best way possible.

Senator **Durenberger**. Do you gentlemen want to comment on that at all?

Dr. **Bronsky**. Not at this time.

Dr. **Graven**. One sort of historical comment: The Improved Pregnancy Outcome Program, which was a program of Health and Human Services, which was to States with the highest infant mortality rates to improve outcome of pregnancy, and the track record was an interesting one. Some States took that money and very clearly targeted on it.

Others used it to sort of supplement their general States' budgets in ways that would be very hard to figure out. Your neighboring State of South Dakota, as you know, took that block of 4 years and went from 43d in the Nation with neonatal mortality to 2 in 3 years, with one improved pregnancy block grant.

Senator **Durenberger**. So it can be done.

Dr. **Graven**. It can be done.

Senator **Durenberger**. OK. Thank you very much for being here. I appreciate your testimony a great deal. We may have questions. Lawton may have questions, also, that he would like you to respond to for the record. If so, he will send them to you. Thank you.

Dr. **Graven**. Thank you, Senator.

Senator **Durenberger**. Richard, thank you, also. I hate to tell the rest of your panal, but Richard went to sleep.

[The prepared statements of Dr. Bronsky (with responses to written questions) Dr. Ehlinger (with attachments and responses to written questions) and Dr. Graven (with attachments and responses to written questions) follow:]

PREPARED STATEMENT OF GEORGE F. BRONSKY, M.D.

I. Introduction

Good morning. I am Dr. George F. Bronsky, Chief of Clinical Services in the Department of Obstetrics and Gynecology of Providence Hospital in Washington, D.C.

I am accompanied today by Mr. Robert Hutson, Executive Director of the Center for Life of Providence Hospital, and Mrs. Lynn Davidson and her baby Guadalupe, recent patients in our Reduced-Fee Maternity Program.

On behalf of Providence Hospital, we are very pleased to serve as your host, Senator Durenberger, and we applaud you for holding hearings on the critical issue of infant mortality. We also applaud Senator Chiles and Senator Benson for their sponsorship of S.1209 establishing a National Commission to Prevent Infant Mortality. We share your deep concern over the human suffering and financial burdens caused by America's high infant mortality rate and we join in your desire that a national policy be designed to combat the problem.

II. Providence Hospital and the Center for Life

Providence Hospital, the oldest hospital in Washington, was founded by the Daughters of Charity in 1861 with a charter signed by President Lincoln. In 1986, Providence will celebrate its 125th year of commitment to health care in the Nation's Capital, a tradition of caring that has always held as paramount both the dignity of life and the needs of the urban poor and underserved.

The most recent expression of Providence Hospital's service to the poor is the Center for Life, a unique health care outreach dedicated to providing positive, concrete alternatives for people facing medical or moral dilemmas that threaten the dignity of life. The Center's six major programs address points along the whole human life cycle, from the moment of conception to the final days of terminal illness.

III. The Reduced-Fee Maternity Program

The specific program I want to share with you today is the Center's Reduced-Fee Maternity (RFM) Program which provides prenatal and delivery care for women who have neither insurance coverage nor Medicaid eligibility. These are the so-called "people who fall through the cracks," women who must pay for their medical care out of pocket, care that today costs from $3000 to $3500 even for a normal pregnancy. Since the program was established in 1977, some 2,200 women have delivered through the Reduced-Fee Maternity program, approximately 300 per year.

Senator Durenberger, I would like to commend you for your often repeated statement linking poverty and infant mortality. In this regard it is important to note that the wide majority of our Reduced-Fee patients are in the high risk category specifically due to their economic status. For example, a review of 1,400 deliveries from January 1981 to the present reveals that 40% of the mothers reported annual income of $5,000 or less. In the same group, over 80% reported incomes of $10,000 or less. Two out of three were married couples, many with other children. It is also important to note that many of these are families who make moderate incomes and are not indigent, but simply unable to afford the cost of medical insurance.

Each of the Center for Life Reduced-Fee patients pays on a sliding scale based on income and dependents. Many pay only the base rate of $425; the overall average price is $700. This means that nearly $3,000 in hospital costs is contributed as charity on every case. Annually this amounts to a maternity charity write-off for Providence Hospital of almost $1,000,000.

IV. Escalating Need for Low-Cost Maternity Care

The need for this kind of maternity care is clear. A recent study based on Census Bureau statistics shows that one in four women of prime childbearing age (18-24) lack insurance coverage for maternity. Fifteen percent of women in the next major childbearing age group (25-29) also are without coverage. These two groups account for about three-quarters of all births in the United States.

And the need is escalating. In 1982, we received about 800 inquiry calls for RFM care. By 1984, the number of inquires had more than doubled to 1900 calls, and in 1985, the number of inquiries is likely to approach 2,500. All of this activity is being generated solely by referrals from grass-roots pregnancy assistance agencies and by word of mouth. The hospital does no advertising for the RFM service because the hospital can subsidize only about 300 deliveries each year.

V. Maternity Needs vs Shrinking Financial Resources

While Providence Hospital's commitment to early, accessible maternity care remains constant, the resources needed to maintain that commitment are shrinking every year. This is largely due to the increasing price sensitivity that has entered the health care marketplace.

The health care system is undergoing dramatic, even revolutionary structural changes as both private and public purchasers of health care services maneuver to control their own costs. The result is that the economic cross-subsidies which in the past have enabled hospitals to meet valued societal needs -- including health care for the uninsured and the underinsured -- are being eroded.

The simple fact is that Providence Hospital's ability to meet today's needs for prenatal care services for this woman falling through the cracks, let along tomorrow's needs, is directly threatened.

VI. Professional Observations

Let me return to the main point of this hearing: the reduction of infant mortality in this country. I want to share with you some professional observations.

Many of the factors which contribute to infant mortality have been well delineated, and I cannot stress too strongly how critically important it is that adequate prenatal care be provided to mothers early in their pregnancies.

The central point of our testimony has been to demonstrate how the lack of financial resources forms a barrier for too many mothers in obtaining this vital care. If more pregnant women had access to adequate and early maternity care, we would not only avoid untold human suffering, but would also save millions of dollars in expensive neonatal care for such infants and mothers.

However, I would draw your attention to two additonal factors which impact negatively on the problem of infant mortality and which should be given serious consideration by the Commission.

The first factor relates to hospitals. Here I would simply reiterate how difficult it is for a hospital like ours to maintain its strong commitment to charity maternity care in the face of shrinking financial resources. The difficulties in providing this charity are increasing and will only get worse in the face of ever-tightening federal budgets.

The second factor is the decreasing pool of physicians available to provide prenatal care for people with limited resources. Many physicians will no long accept Medicaid patients because the reimbursement provided is less than the physicians cost to provide the care. OB physicians are also operating in a malpractice climate in which the OB patient at most risk for infant mortality is also the patient who presents the highest risk for a medical malpractice claim. The result is that obstetricians are choosing not to accept these high risk/high liability patients or, in some cases, are dropping the OB side of the OB/GYN practice entirely.

VII. Conclusion

I would like again to express our gratitude to the Subcommittee for honoring Providence Hospital and its Center for Life with its presence here today. We encourage the Congress to do all in its power to reduce and eliminate the barriers to adequate health care for pregnant women which contribute substantially to the high infant mortality rate in the United States.

We here at Providence Hospital stand ready to assist in any way we can, and I will be happy to answer any questions you may have.

providence
hospital

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16 December 1985

Senator Dave Durenburger
Chairman, Subcommittee on
Intergovernmental Relations
United States Senate
Washington, D.C. 20510

Dear Senator Durenberger,

It gives me great pleasure to be given the opportunity to further discuss the critical issue early prenatal care. You asked in your letter, "how early does the critical first visit need to be?". The most direct answer to that question is, before the time of conception. As soon as an individual has decided on or even contemplated conception, an appointment should be made with a health care provider for a complete pre-pregnancy consultation. This consultation should consist of a complete medical history, a thorough physical examination, routine prenatallaboratory tests, and a discussion period. At the present time, these four items are not addressed until after the time of conception and usually not until the time of the second missed period, if not later. This means that the women is at least eight weeks pregnant by the time she has had her first prenatal visit. It is during the first eight weeks of pregnancy that the embryo is most susceptible to the effects of an adverse intrauterine environment and is therefore most likely to develop a malformation.

By establishing as routine, the concept of the pre-pregnancy visit, it would be possible to detect many maternal maladies such as, diabetes, hypertension, and thyroid dysfunction to name a few, prior to conception. It would then be possible treat and control these illnesses prior to conception and consequently increase the likelihood of a successful pregnancy. By performing a pre-pregnancy physical examination, it would be possible to detect such maternal conditions as cervical polyps or ovarian cysts, which could better be treated prior to pregnancy than during pregnancy. Pre-pregnancy prenatal laboratory screening would allow for the detection of anemia, urinary tract infection, gonorrhea, syphilis, the abnormal Pap smear, the woman at risk for Rh-incompatibility and the rubella susceptible woman.

By scheduling time prior to conception, women can be counselled on risks of smoking, alcohol, drugs, over-the-counter medications, exercise and occupational hazards as they relate to pregnancy. At the same time, the benefits of good nutrition, social habits and education concerning pregnancy can be discussed. Additionally, pre-pregnancy counselling would provide an opportunity to identify those individuals who are at increased risk for genetic abnormalities prior to conception. This would allow for appropriate counselling with regard to risk probability and alternatives to pregnancy if indicated.

In the final analysis, there are approximately 3.5 million births in the United States annually. Of these babies born, 7 per cent or 245,000 newborns are born with or develop mental or physical defects. One-fifth of all infants who die by the age of 4 years die as a result of a congenital birth defect. These statistics still do not take into account the significant spontaneous pregnancy wastage which occurs as a result of developmental defects. Certainly not all of these infant deaths and miscarriages can be avoided by a pre-pregnancy visit, but certainly a major impact would be made on reducing the number of miscarried pregnancies, perinatal and infant deaths, and those individuals who are "fortunate" enough to survive but remain handicapped for the remainder of their lives.

With regard to your second question, "How do you decide which cases to take and what do you tell those you can't help?", I have spoken with Sister Nancy who is responsible for screening those individuals that call Providence Hospital to enroll in the Center for Life, Reduced Fee Maternity Program. The following is the data which she has provided for the period between 4 January, 1985, and 1 November 1985.

- During this time period there were 632 individuals scheduled for appointments.

- 185 appointments were not kept.
  Reasons: - ignorance of need for prenatal care.
  - unable to pay even the $75.00 deposit.
  - Other arrangements made due to the waiting time required to get into this program.
  - Other unknown reasons.

- 10 acquired medical assistance prior to their appointment of realized that they did in fact have medical insurance coverage.

- 20 were found to be over income for this program.
  Example: Family of four with gross annual income of

  $16,000. A $1,000 deduction is allowed fo each family member. Outstanding medical expenses are also deducted. This adjusted gross income is then multiplied by a factor of 0.15 to determine eligibility for the Reduced Fee Maternity Program. In the above example the method described would equate to, ($16,000 - $4,000) x 0.15 = $1,800, which does not qualify for the Reduced Fee Maternity Program.

- 15 opted for pregnancy termination between the time they first called and their scheduled first visit.

- 50 kept their appointment but found even our cost too prohibitive.

- 170 received Medical Assistance of insurance coverage during the course of their pregnancy or dropped out of the program for various reasons.
  Reasons: - Delivery in a hospital closer to their home (this results in two hospital bills).
  - Some move out of the metropolitan area.

This leaves a total of 182 individuals who completed the Reduced Fee Maternity Program between 4 January, 1985, and 1 November, 1985.

The fate of the other 1000+ individuals who initially called the Center for Life, but do not qualify for the Reduced Fee Maternity Program, is much more difficult to describe. This is of course due to the fact that they were never enrolled in the program and therefore we have no way of knowing where they eventually turned for help. The following is the limited information which we can provide regarding these individuals.

- Many women request prenatal care too late in their pregnancy. At the present time it takes approximately six weeks from the time of the woman's initial phone call until she can be accepted into the program and be seen for her first prenatal visit. The woman can not be accepted into the program after the 30th week of pregnancy if she has had no previous prenatal care, nor can she be accepted after the 32nd week of pregnancy if previous prenatal records are available at the time of the initial inter view. In these cases the woman is instructed to try another hospital for an earlier appointment, of they are instructed to go to their local general hospital emergency room when labor begins.

- Because we try to reach the poorest of the poor, the program does not accept tourist, diplomatic or visitor visas.

- Even though many have only modest a income, they are found to be above the programs level economically. Our second hospital program as well as other hospital programs, which could serve these individuals, have moderate costs that must be paid prior to delivery. This pre-delivery payment is not a feasible alternative to many of these people in spite of their income level.

- Some individuals are informed that they may qualify for Medical Assistance and therefore delay prenatal care because they have no income.

- The hospital's charity funds are insufficient to provide care for all those that request care and therefore we must limit the number of new patients to 15-20 per week. This fact keeps timely individuals away because the calender fills so quickly.

I hope that I have answered your questions to your satisfaction. If I may be of any further assistance to you concerning the issue of infant mortality, please do not hesitate to contact me.

Wishing you and your family a happy and a healthy Holiday Season.

Sincerely,

George F. Bronsky, M.D.

George F. Bronsky, M.D.

PREPARED STATEMENT OF EDWARD P. EHLINGER, M.D.

The infant mortality rate has traditionally been used as one of the indicators of the health status of a nation. Although it has limitations as a measure of the overall adequacy of a nation's health care system, the infant mortality rate has proven to be not only a sensitive barometer of social and economic conditions within a country but more importantly an indicator of governmental commitment to the health of children and pregnant women. With the recent slowing of the improvement of the United States infant mortality rate and the realization that the United State's rate relative to other industrialized countries is getting worse, efforts have been initiated throughout the nation to examine and deal with this significant problem.

People and agencies in Minnesota and particularly in the Twin Cities metropolitan area are contributing to these efforts. Although Minnesota has the 6th lowest infant mortality rate among the 50 states, it has become obvious that certain groups in Minnesota are not sharing equally in the benefits of our health and social service systems. This disparity is particularly evident in Minneapolis and St. Paul where a disproportionate number of Minnesota's high risk individuals live. A report entitled "Infant Mortality: The Problem in Minneapolis" is attached. This report highlights the fact that if you live in Minneapolis and are poor, young, non-white, unmarried, uneducated, or have had inadequate prenatal care, the chances of your baby dying in the first year of life are 2 to 4 times higher than for mothers without those characteristics.

Approaches to the problem of infant mortality in Minnesota have been innovative and varied. The Minnesota Coalition on Health Care

Costs has identified neonatal intensive care units as a major contributor to the high cost of health care. They have concluded that by decreasing the occurence of low weight births, the need for costly neonatal services would be reduced. A task force convened to address this issue will be making recommendations within the next month. Although the Coalition's goal is to reduce health care costs, its focus on the prevention of low weight births will also have an effect on infant mortality.

Many clinics and Health Maintenance Organizations in Minnesota are also addressing the problem of low weight births by developing and implementing prenatal assessment tools to identify women at risk for delivering a low weight infant. These risk assessments allow for the targeting of specialized services to the highest risk pregnancies. Infant mortality and health care costs should be lowered by these assessments and interventions.

The Minnesota Public Health Association has made Maternal and Child Health a priority issue and is supportive of the establishment of a National Commission to Prevent Infant Mortality. The Association is also holding prenatal care workshops throughout rural Minnesota to give health and social service providers up to date information on the importance of comprehensive prenatal care.

Similarly, a group of agencies, including the Centers for Disease Control, the Minneapolis and Minnesota Health Departments, the Urban League and the Urban Coalition are conducting a survey to determine the barriers to prenatal care. Since prenatal care is known to improve birth outcomes, these efforts should improve infant mortality rates.

The Minnesota Department of Health's Maternal and Child Health Advisory Task Force has also made the reduction of infant mortality a high priority issue. In its recently completed Maternal and Child Health Plan, the task force developed statewide objectives for infant mortality, low weight births and prenatal care. Public hearings throughout the state have increased awareness of the state's priority to improve infant health.

Another major effort to reduce the infant mortality rate has been undertaken by the Minneapolis Health Department under the heading of Project LID (Lower Infant Deaths). Project LID has initiated a review of matched birth and death records to identify the specific factors associated with infant deaths in Minneapolis. The Project is also developing a media campaign to increase community awareness of the problem of infant mortality. A program to inform providers of health and social services of ways to address infant mortality is also planned. All of these efforts are being undertaken by a coalition of community agencies representing a cross-section of Minneapolis residents.

A direct service activity of Project LID is the Minority Childhood Health Improvement Program (MinCHIP). This program, funded by the Northwest Area Foundation, targets two predominantly Black neighborhoods in Minneapolis for neighborhood-based services to decrease adolescent pregnancy and improve infant health. The services include neighborhood health professionals modeled after the "Block Nurse" concept developed by the Ramsey County Nursing Service and peer-oriented parenting education patterned after the MELD parenting program. MinCHIP has been well received by the Black community and has stimulated other agencies serving Blacks to initiate similar programs.

Project LID and MinCHIP are recent additions to long-standing efforts at the Minneapolis Health Department to improve the health of children and pregnant women. Since the 1960s, the Department has provided prevention-oriented comprehensive maternity,family planning, and child health services with funding provided by Title V of the Social Security Act in addition to City, State, and Medicaid funds. Not only have these public health-oriented clinical programs demonstrated their ability to improve birth outcomes among high risk populations but have also served as a model for the development of other high quality maternal and child health services in Minneapolis.

These are only a few of the efforts currently taking place in Minnesota to address the problem of infant mortality. More could be described but these examples are sufficient to demonstrate the high priority given to the problem of infant mortality in Minnesota.

From these programs and from similar efforts throught the country a clearer picture of the causes of infant mortality is starting to develop and some solutions are being identified. It is becoming evident that the problems and the solutions are not primarily medical in etiology. The technical expertise exists to improve pregnancy outcomes and expanded technology is expected to have only a minor effect on infant mortality rates. The major problem is access to the existing health services. Assuring universal access to reproductive and child health services would have a profound impact on infant mortality.

Working against universal access to health services are 3 major factors: 1) widespread poverty and inadequate education that make health insurance coverage and employment unobtainable; 2) multiple barriers that limit the health care options for some racial and ethnic groups, and 3) social policies that at best place health care in a competitive mode and at worst ignore government's responsibility for the health of its citizens.

To eliminate these factors and make an impact on the problem of infant mortality, we need to shift our focus from the high cost and high technology medical aspects of health care to the prevention oriented services like education, job training, nutrition, social supports and comprehensive prenatal care. We need to coordinate our prevention activities to avoid duplication and identify gaps in services. We also need a mechanism to share information for use in program planning, implementation and evaluation. A National Commission to Prevent Infant Mortality could be beneficial in these areas.

Finally we need to make a commitment to the children of this country. We need to make children our highest priority and protect them from the political and economic competition that pervades our health and human service systems. Children are completely dependent on us for their health, safety, and development. We must serve as their protectors, teachers, and advocates. We need to do this as individuals and as a society. The establishment of a National Commission to Prevent Infant Mortality would be a positive step in accepting that responsibility.

The problem of infant mortality in this country is an issue of social justice. We are a nation wealthy with human and natural resources. We have the ability to improve the health of the most vulnerable segment of our population - our children. However, to do that we must choose to make children a priority and ignore the economic and political pressures to channel our resources elsewhere. Children have placed their faith and trust in us. Their survival and growth depends on our acceptance of that responsibility. To ignore that responsibility would be an injustice not only to our children but to our society.

INFANT MORTALITY

THE PROBLEM IN MINNEAPOLIS

Prepared By

THE MINNEAPOLIS HEALTH DEPARTMENT

December, 1984

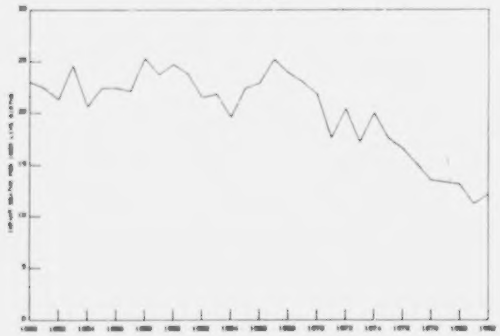
INFANT MORTALITY

THE PROBLEM IN MINNEAPOLIS

Infant mortality is a greater problem in the United States than in many other industrialized countries. In 1980 the United States ranked sixteenth among selected countries in the number of infant deaths per 1000 live births. The U.S. infant mortality rate of 12.6 in 1980 was approximately twice that of Sweden's first ranked infant mortality rate of 6.7. Furthermore, the U.S. rate was higher than such countries as Japan, France, Canada and England. Within the United States there are considerable discrepencies in infant mortality rates among racial groups. The national Black infant mortality rate in 1980 was 21.4 compared to a White infant mortality rate of 11.0. The national health objective regarding infant deaths is to lower the infant mortality rate to less than 9.0 by 1990 with no county and no racial or ethnic group of the population having a rate in excess of 12.0.

In Minneapolis there has been a significant reduction in the overall infant mortality rate during the past quarter century. As shown in Figure 1, the infant mortality rate in Minneapolis has decreased considerably since 1950 with the greatest decrease evident during the past decade. The infant mortality rate in 1982 for all Minneapolis infants was 12.1.

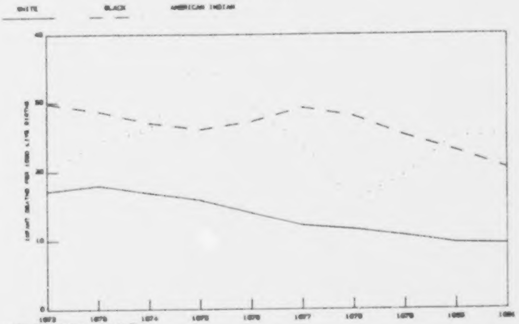
Figure 1
MINNEAPOLIS INFANT MORTALITY RATE
1950-1982



Although the Minneapolis infant mortality rate has decreased significantly during the past decade, the rate of decrease has not been uniform for all racial groups as indicated in Figure 2.

Figure 2

MINNEAPOLIS INFANT MORTALITY RATE BY RACE
1972-1981*



*THREE YEAR AVERAGE ANNUAL RATE

The infant mortality rate within the White population in Minneapolis decreased 45.3% from a rate of 17.2 in 1972 to 9.4 in 1981. Among the Black population the infant mortality rate decreased only 31.5% for the same period, from 29.8 in 1972 to 20.4 in 1981. There has been essentially no change in the infant mortality rate among American Indians in Minneapolis for the ten year period. The 1981 American Indian rate of 25.1 was the highest rate reported. It is difficult to make inferences regarding trends with Asian-Pacific Islander infant mortality because of the recent influx of refugees. In 1981 the Asian-Pacific Islander infant mortality rate was 14.9.

All minority infants in Minneapolis have a greater risk of dying than White infants. Table 1 depicts the risk of death among Black, American Indian, and Asian-Pacific Islander infants compared to the risk of death for White infants.

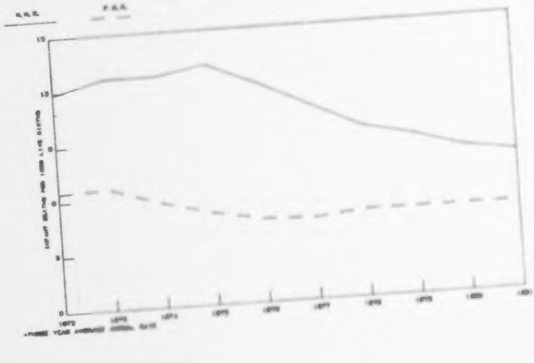
Table 1. Risk of Infant Mortality for Minority Races as Compared to the White Race
Minneapolis, 1980-1982

Race	Minority Risk Compared to White Risk*
Black	2.2 to 1.0
American Indian	2.7 to 1.0
Asian or Pacific Islander	1.6 to 1.0

*Ratio of the infant mortality rate for the minority race to the infant mortality rate for the white race.

Inadequate prenatal care is an important contributor to neonatal deaths which are deaths that occur before 28 days after a live birth. These early deaths are often associated with adverse conditions existing during pregnancy and with events surrounding the birth of the infant such as premature delivery and low birth weight. Postneonatal deaths occur from 28 days to less than one year after birth and are more often associated with infectious diseases and other physical, sociological, and environmental factors. Neonatal deaths among Minneapolis infants decreased 37.0% from 1972 to 1981 compared to a decrease of 27.7% for postneonatal deaths during the same period.

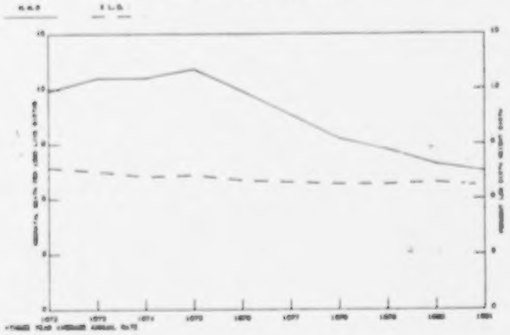
Figure 8
NEONATAL AND POSTNEONATAL MORTALITY RATE
MINNEAPOLIS, 1972-1981*



*THREE YEAR AVERAGE ANNUAL RATE

A birth weight of less than 2500 grams (5½ lbs.) places an infant at increased risk of death, particularly during the neonatal period. The percent of Minneapolis infants with low birth weight has remained fairly constant for the past ten years. Figure 4 compares the trend in the Minneapolis neonatal death rate and the percent of infants with low birth weight from 1972-1981.

Figure 4
NEONATAL MORTALITY RATE AND % LOW BIRTH WEIGHT
MINNEAPOLIS, 1972-1981*



The decline in the neonatal death rate and the relative consistency in the percent of low birth weight infants over the past ten years reflect improved care for low birth weight infants but little progress in the prevention of prematurity and fetal growth retardation.

Although the percent of low birth weight infants in Minneapolis has remained relatively stable there is considerable variance with the percent of low birth weight infants among racial groups as depicted in Table 2.

Table 2. Low Weight Births by Race
Minneapolis, 1982

Race	Total Births	Low Weight Birth*	Percent Low Weight Birth
All Races**	6289	403	6.4
White	4546	243	5.3
Black	955	109	11.4
American Indian	392	26	6.6
Asian or Pacific Islander	361	24	6.6

*Low weight birth of less than 2500 grams (5½ lbs.)

**Includes births with race not reported.

All Minneapolis minority populations have a higher incidence of low birth weight infants than the White population. Factors that have been associated with low birth weight infants are multiple gestation (twins or triplets), maternal infection, poor nutrition, medical conditions of the mother such as high blood pressure or heart disease, and adverse life style factors such as smoking or excessive use of alcohol.

An indepth analysis was completed for the 299 deaths which occurred among Minneapolis infants during the four year period 1979 through 1982. The racial distribution among these deaths is depicted in Table 3.

Table 3. Infant Mortality by Race
Minneapolis, 1979-1982

Race	Number of Deaths	Percent of Total Deaths
All Races	299	100.0
White	177	59.2
Black	74	24.7
American Indian	33	11.0
Asian or Pacific Islander	15	5.0

Sixty-one and two-tenths percent (183) of the 299 infant deaths were neonatal deaths and 38.8% (116) occurred during the postneonatal period. Racial discrepencies as to when infant deaths occur is evident in Table 4 which depicts the neonatal and postneonatal rates by race per 1000 live births.

Table 4. Total Infant, Neonatal, and Postneonatal Death Rates
By Race, Minneapolis, 1979-1982

	All Races		White		Black		American Indian		Asian or Pacific Isl.	
Deaths	No.	Rate*	No.	Rate*	No.	Rate*	No.	Rate*	No.	Rate*
All Infants	299	12.4	177	9.9	74	21.0	33	23.1	15	13.6
Neonatal	183	7.6	111	6.2	46	13.1	14	9.8	12	10.8
Postneonatal	116	4.8	66	3.7	28	8.0	19	13.3	3	2.7

*Rate per 1000 live births

For all minority groups the neonatal and postneonatal mortality rates are higher then the White rate except the Asian-Pacific Islander postneonatal rate. Of particular interest is that the risk of death among American Indian infants as compared to White infants increases form 1.6 to 1 during the neonatal period to 3.6 to 1 during the postneonatal period.

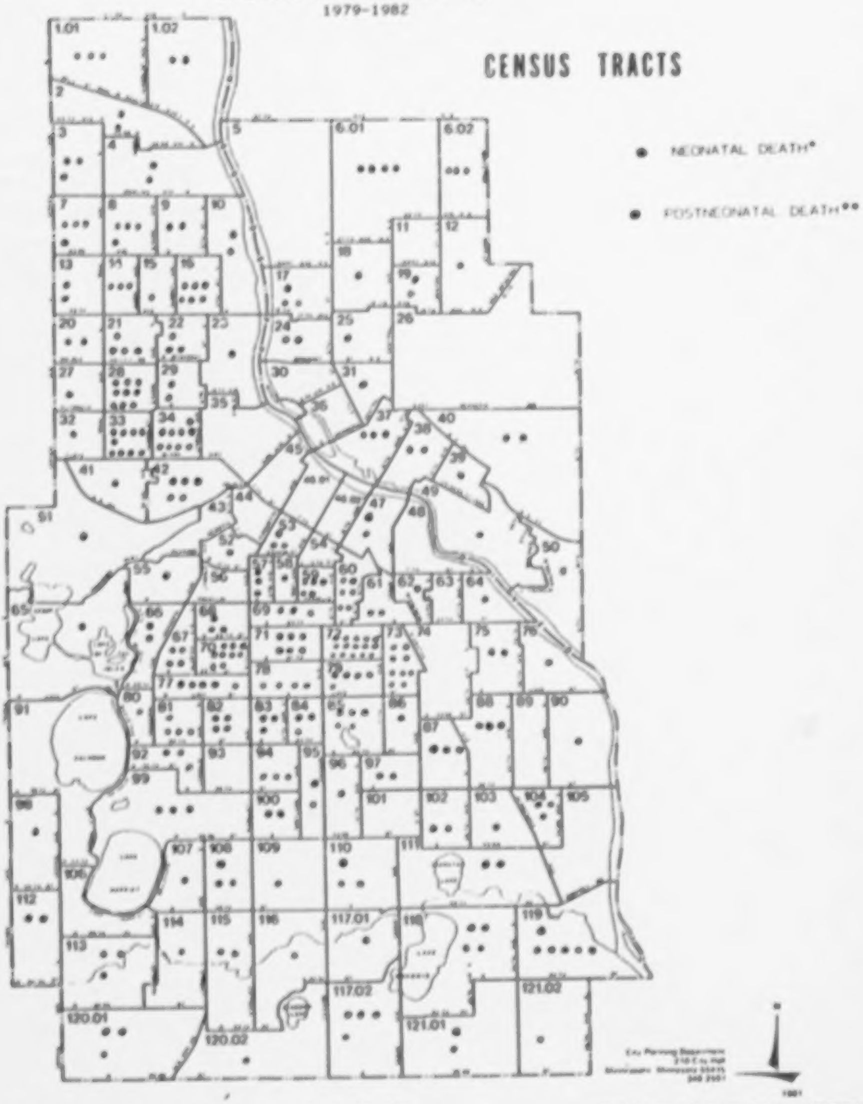
The major causes of death among Minneapolis infants are delineated in Table 5.

Table 5. Major Causes of Infant Deaths
Minneapolis, 1979-1982

Causes	Number of Deaths	Percent of Total
All Causes	299	100.0
Congenital anomolies	64	21.4
Sudden infant death syndrome	54	18.1
Disorders related to short gestation and unspecified low birth weight	35	11.7

These three causes accounted for 51.2% of all Minneapolis infant deaths for the four year period 1979-1982. Additional significant causes of infant deaths included other perinatal conditions, infective and parasitic diseases, and accidents.

MINNEAPOLIS NEONATAL AND POSTNEONATAL DEATHS
BY CENSUS TRACT OF RESIDENCE
1979-1982


CENSUS TRACTS
● NEONATAL DEATH*
● POSTNEONATAL DEATH**

* DEATH OCCURRING LESS THAN 28 DAYS OF AGE

** DEATH OCCURRING AT AGE 28 DAYS TO LESS THAN ONE YEAR

MINNEAPOLIS HEALTH DEPARTMENT
HEALTH PLANNING & EVALUATION

Definitions

Infant: A baby less than one year of age.

Infant Mortality Rate (I.M.R.): The number of infant deaths per 1000 live births.

Neonatal Mortality Rate (N.M.R.): The number of infant deaths per 1000 live births which occur before 28 days after birth.

Postneonatal Mortality Rate (P.M.R.): The number of infant deaths per 1000 live births which occur from 28 days to less than one year after birth.

Low birth weight (L.B.W.): Less than 2500 grams (5½ lbs.) at birth.

Perinatal: Relating to events which occur from 20 weeks gestation during pregnancy to 28 days after delivery.

Acknowledgments

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DR. EHLINGER'S RESPONSES TO WRITTEN QUESTIONS

1. Why did the infant mortality in Minnesota increase between 1982 and 1983? What is the trend now?

   A. Besides poverty, probably the most significant factor affecting the infant mortality rate in Minnesota is entry into prenatal care. From 1979 to 1982, there was a steady increase in the percent of women with late or no prenatal care. This risk factor is strongly associated with infant mortality and was most likely the major contributor to the rise in infant mortality between 1982 and 1983.

   In 1983 the percent of women with late or no prenatal care decreased for the first time in 5 years. Subsequently in 1984 the infant mortality rate in Minnesota decreased. I think this turn around is due to the major efforts that have been initiated throughout the state to address this major public health problem. A National Commission to Prevent Infant Mortality would help keep these efforts going and facilitate sharing of information about successful efforts with other states.

2. Where do the dollars come from for your Lower Infant Death Project? Are there any private dollars available?

   A. Project LID (Lower Infant Deaths) is funded partially by the MCH Block Grant, the Minnesota Community Health Service Act, and City of Minneapolis general fund dollars. Recently we've received grants from the national and local chapter of the March of Dimes. Many agencies have donated staff time to help in this effort and in April a city wide meeting on infant mortality will be supported by hospitals and HMO's.

3. How do you coordinate your activities with existing public and private programs providing similar or related services?

   A. As a public agency, our role is to facilitate collaborative and cooperative efforts. We provide services only where gaps exist. We have other community providers on all of our advisory committees and encourage our staff to work with other agencies in their program planning activities. So far we've been able to avoid a lot of competition and duplication of services among providers.

4. How could we improve cooperation between existing programs?

   A. The competitive environment that exists in our health care system today is not conducive to the sharing of information. If we could develop a high priority and highly visible campaign to address the problem of infant mortality, I believe most health care providers would join the effort and be willing to publicize their activities to the community. It would then be possible to coordinate many of the existing community efforts and identify what else needs to be done and who should do it. I believe this is the role of public health agencies at the state and local levels.

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October 28, 1985

RE: TESTIMONY SENATE BILL 1209

Mr. Chairman:

I am Dr. Stanley N. Graven, Professor of Maternal Child Health, College of Public Health, University of South Florida, Tampa. I have been working with the problems of Neonatal and Infant Mortality for the past twenty years in more than a dozen states. I am here today to testify in support of Senate Bill 1209, to establish a National Commission to Prevent Infant Mortality.

The Infant Mortality rate in the United States remains unacceptably high dispite improvement over the past twenty years. It is particularly distressing to see segments of our population with infant mortality rates two or three times the national average. This is true in both rural and urban areas. These large disparities continue to exist between rural counties, between different urban areas, within urban areas, between racial groups and within racial groups.

The infant death rate only serves as an indicator of a long list of problems that result from inadequate care and services for high risk mothers and infants. For every preventable infant death, there are several infants who will grow up handicapped by preventable events during pregnancy and early infant life. Throughout our nation, there have been many programs and models which have demonstrated beyond question, that the high risk of adverse outcome, either death or disability, can be changed with todays knowledge and technology. While research is still needed, we can achieve great improvements in the outcome of pregnancy with our present knowledge and skills.

In the Robert Wood Johnson Foundaton's Rural Infant Care Program, which is concluding this year, it was clearly demonstrated that with very modest investment of resources it was possible to achieve major reductions in mortality and improvement in care services in thirty seven rural counties in nine different states. These thirty seven counties had some of the highest infant mortality rates in the nation.

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The decrease in mortality was achieved primarily by expanding the availability and accessability of primary maternity services and getting high risk mothers to appropriate specialized services.

There are numerous studies reporting the clear benefits of appropriate services for the mother and fetus during pregnancy. These studies also show that high risk mothers and especially high risk low-income mothers need a wide range of services, often non-medical services, than low risk, middle class mothers. These services and their availability are clearly major determinants of pregnancy outcome and mortality.

Our failure to provide these services in ways that make them available and accessable does not save money. While many health and welfare services deal with human need and suffering, health care for women during pregnancy has a signigicant cost saving from the services in addition. While there are savings from reduced mortality rates, the major savings come from reduction in the number of infant intensive care admissions and intensive care days.

Attached is data derived from 1982-83 study in central Missouri. The cost of care for each of the gestational ages at birth is shown. The reduction in number of NICU days for each of the weight groups is shown in the second graph. From this data it was concluded that there is a cost saving of at least $100.00 per hour to carry a pregnancy from the twenty fourth week to the thirty second week of pregnancy. The greatest saving is thru the prevention of very low birth weight infants, that is those who weigh less than three pounds six ounces or 1500 gms. The survival of the very small and premature infant is associated with long and expensive hospital stays. A significant number that survive have permanent neurological damage. There is an increasing number of children with cerebral palsy associated with the survival of smaller and smaller infants.

Hillsborough County, Tampa Floirda, has over eight hundred Low Birth Weight babies each year of which more than one hundred fifty are less than 1500 gm. (3lb. 6 oz). This Places Hillsborough County above the rate for Florida, which is above the national rate for low birth weight. If the low birth weight rate in Hillsborough County (Tampa) were reduced from 8% to 6%, a rate that is achieved in many states, the savings in cost for reduced number of infant intensive care days would exceed $4,500,000.

This kind of savings can be achieved by expanding the availability and use of the many services which change the outcome of pregnancy. Understanding the savings that are possible in one county, the potential for savings statewide in Florida is very large. The cost of the excess frequency of low birth weight and adverse pregnancy outcome in Washington D.C. alone is even greater than Hillsborough County Florida. The cost savings would more than cover the costs of the maternity and infant care services.

I am here in support of Senate Bill 1209. I would only urge the committee to consider extending the term of its study to at least 18-24 months because of the time necessary to do this work.

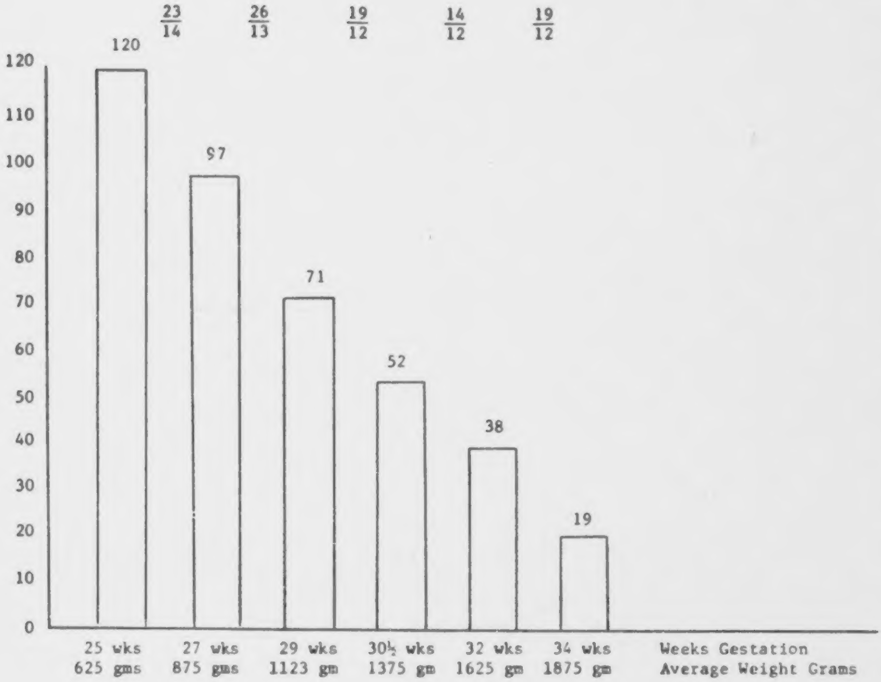
Thank you for the opportunity to appear before you.

CENTRAL MISSOURI: 1982 - 83

GESTATIONAL AGE AT BIRTH WEEK	COST 1st WEEK	TOTAL COST TO DISCHARGE
24 - 25	12,000 - 18,000	110,000 - 150,000
26 - 27	9,000 - 14,000	80,000 - 125,000
28 - 29	7,000 - 12,000	55,000 - 100,000
30 - 31	5,000 - 10,000	35,000 - 75,000
32 - 33	3,000 - 9,000	10,000 - 50,000
34 - 35	1,000 - 6,000	2,000 - 25,000
36 - 37	300 - 3,000	300 - 8,000

Maximum Charges:		
	Daily	> $5,000
	Weekly	> $18,000
	Monthly	> $60,000
	Single Bill	>$200,000

DAYS IN NICU BY WEIGHT GROUP



Dr. Graven's Responses to Written Questions

Question 1. Dr. Graven, tell us a bit about the Robert Wood Johnson Rural Infant Care Program.

Answer. The Robert Wood Johnson Rural Infant Care Program, was a program designed to determine if adding a Medical School and major Medical Center to a relationship with rural countries and State Health Department the mortality rate for infants and the outcome pregnancy could be improved. Bringing the Medical Center into the dynamic of the rural county and it's relationship with local health providers and the health department is one of providing access to high risk care, providing technical assistance, continuing education program development support and a variety of services that are often difficult to obtain in the more rural areas. The programs worked most successfully when physicians, nurses and other staff from the medical centers were able to work through local leadership in the process of changing access to prenatal and infant care services and the quality of those services. It was highly dependent upon locating and working with local leadership. The projects in general did not work well or successfully in those areas where such leadership could not be identified or established.

Question 2. What type of outreach activities were effective in getting high-risk mothers early prenatal services?

Answer. What type of outreach activities were effective in getting high risk mothers early prenatal care? The more important question was getting all or nearly all mothers into appropriate prenatal services. Many mothers became high risk by virtue of their failure to avail themselves of appropriate services early in the pregnancy. The outreach services which were accomplished using experienced women, successful mothers who combined maturity with understanding and interest in young mothers were the most successful ingredient in the outreach program. Such outreach workers were successful in not only getting mothers in for their prenatal services early in pregnancy, but persisted with a variety of activities which improved the chances of successful out come of the pregnancy. These included such things as improved nutrition, problem solving of many issues associated with housing living conditions and relationships with family and others, reduction in smoking and substance abuse and variety of issues related to living and life style which would adversely affect pregnancy if not altered. The outreach workers were remarkable effective in linking these young mothers together in way that produced a variety of mutual supports all of which impacted on the out come of the pregnancy. Nearly all of the factors which produced the greatest impact on the pregnancy outcome were unassociated with the medical care for the particularly high risk mother. Those mothers were referred earlier and more appropriately for high risk services in this significantly changed the out come as well.

Question 3. Are there activities that simply do not work?

Answer. What activities simple did not work? The development of outreach on visiting services and linkages using professionals was only effective around particular care of particular problems and was not successful in establishing a services which could be maintained on a cost benefit equation. The professional outreach workers, community health nurses developmentalist, social workers were not as well received and nor did they achieve the responses which the more indigenous or community based outreach. Attaching outreach workers to county health units usually resulted in them being assigned to the clinics and the outreach function discontinued. It was very difficult to structure community outreach workers into the current public health administrative structure in any of the states with well developed public health units.

Question 4. How can what you learned be related to the inner city?

Answer. What can be learned that would be related to the inner city? The inner city opposes a more complex problem and in some ways an easier problem from the rural situations described above. In the rural situations there was a sense of community relationships with family often in the same area, which made it possible to build support systems and to build on relationships which endure over time. In the inner city particularly in areas of public housing people have no choice over where they live or who their neighbors are. They is little or no sense of community and no support system. More importantly the stress levels are high, security issues dominate, difficult to have health services organized so that people can avail themselves of them in keeping with all of the stresses and problems associated with the disorganization of inner city life. The principal of indigenous or local successful mothers is still very viable and can be worked very successfully in neighborhoods and public housing areas. It takes time to develop, but can be accomplished. Such workers working closely within public health units in community agencies and organizations can very successfully change the course of care services and out come of pregnancy for women in these neighborhoods.

Question 5. What program changes at the state level are suggested by the results of the demonstration?

Answer. What program changes at the state level are suggested by the results of the demonstration? I believe that each of the states with the significant population of women who are not obtaining the appropriate services during pregnancy should begin rather large scale demonstration projects of health service organization which includes using supervised and prepared outreach workers who are local to the community. It will require rebuilding some neighborhood and project relationships with linkages to the public health private health systems. The individual structure will vary from city to city, but will incorporate a series of common principles. I believe that the National Commission to Prevent Infant Mortality could be a very excellent vehicle for establishing the principals in a form which could be adapted to the various situation in larger cities around the country.

Question 6. How did your program coordinate with existing maternal and child health programs—either public or private?

Answer. How did this program coordinate with existing maternal and child health programs—either public or private? One of the early activities of the projects was to identify existing health services and to determine how they may be utilized more effectively in improving out come and reducing mortality. In most communities this was indeed possible. It involved numerous meetings, consultations and conversations, but in general it could be accomplished. The Rural Infant Care Program by design was to create a coalition of public health, private health, state health services and medical center services to target on specific needs within rural areas. In that regard it was very successful in bring those groups together.

Question 7. What are suggested by the results of the demonstration?

Answer. Suggestions as a result of the demonstration? I believe the suggestions which result from this demonstration point out that certain services during pregnancy and early infancy must become universally available. The cost of our failure to deliver these services is very large in direct expenditures of public dollars for unnecessary neonatal intensive care and the on going care of neurologically damaged infants. Far to much of this preventable. In designing a program for universal prenatal and infant care services the role of outreach workers or support people in community and neighborhoods needs to be incorporated into the plan, if it is to succeed with the low income and disadvantaged population. In many areas both urban and rural there are population of women who during prenancy and even more so children during infancy and early childhood have no agency or group responsible for making health services available. With the Rural Infant Care Program we were often able to expand or create a group or coalition who would assume responsibility for seeing such services were available. When that happened the out come improved marketly.

Senator **Durenberger**. Our next panel is Luanne Nyberg, director of Children's Defense Fund, Minnesota project, St. Paul, MN and Richard E. Smith, director, on behalf of the March of Dimes Birth Defects Foundation, and Jeffrey R. Taylor, Ph.D., National Association of Public Health Policy from Lansing, MI.

Thank you all very much for being here. Luanne, I think you are first. All of your written statements, if you have them, will be made part of the record of this hearing, and you may now proceed to abbreviate them in whatever way is appropriate. You have about 5 minutes. When the yellow card up here goes up, that means you have got 1 minute. The red card means you are out of time.

Luanne.

TESTIMONY OF LUANNE NYBERG, DIRECTOR OF CHILDREN'S DEFENSE FUND, MINNESOTA PROJECT, ST. PAUL, MN, ACCOMPANIED BY SARA ROSENBAUM, DIRECTOR, HEALTH DIVISION, CHILDREN'S DEFENSE FUND; RICHARD E. SMITH, M.D., DIRECTOR, YOUNG ADULT CLINIC, HENRY FORD HOSPITAL, DETROIT, MI, ON BEHALF OF THE MARCH OF DIMES BIRTH DEFECTS FOUNDATION, AND JEFFREY R. TAYLOR, Ph.D., NATIONAL ASSOCIATION OF PUBLIC HEALTH POLICY, LANSING, MI

Ms. NYBERG. Thank you very much for allowing us to be here today. In our written testimony, we have submitted a lot of information about unmet needs and access issue for pregnant women in the United States and Minnesota.

The CDF, the children's defense fund, came to Minnesota because of the interesting health care environment there. We are so far ahead in the development of HMO's and the restructuring of health care, we have got an excellent health care delivery system, but we also have many, many people, hundreds of thousands, who don't have Medicaid eligibility, don't have money to buy into the system, and are therefore not in the system.

I am going to tell you a little bit about them today.

We also are in an environment where health maintenance organizations which are at risk for the people they take care of, and therefore capture those saved NICU costs, have a nonprofit status and so have a special tax status and do absolutely no uncompensated care. A person who cannot pay will not get to a doctor, in a closed panel HMO to say, "I can't pay. Will you please take care of me?"

We also have an increasing pressure on doctors because their incomes are beginning to fall, they have less and less ability or willingness to provide uncompensated care, which offsets primary care physicians who do prenatal care.

It is not so much the hospitals in Minnesota, who are turning people away—particularly not in rural Minnesota. But we do have pressures on our hospitals who are being asked to buy down costs by the large purchasers, the HMO's.

Let me tell you about some of the women and children in Minnesota. Now, in Lake Wobegone in Minnesota, and in the rest of Minnesota, the women are strong, and the men are good looking. [Laughter.]

However, I am sorry to tell you that not all of our children are above average.

Senator DURENBERGER. Very clever. I will bet you are the first one to capture congressional attention there.

Ms. NYBERG. Read Time magazine if you don't know what I am talking about.

Infant mortality actually rose in Minnesota in 1983, which was shocking to people in Minnesota and to people around the country. It is also true that a high percentage of pregnant women in Minnesota do not get into prenatal care in that early, critical first trimester, more than one in five. It could be as high as one-third.

We went out and did hearings in Minnesota, and I will talk to you more about rural than urban Minnesota. Half of our population live in the Twin Cities area, the other half is in heavily rural

Minnesota. Minnesotans are very proud, and they have a strong tradition of taking care of themselves. We are used to going without rather than asking for help. Yet our iron range declined, the rapidly changing economy, the growth in low wage, poorly insured jobs and our farm problems and attendant rural economic problems have put a terrific amount of pressure on people.

What we found is that pregnant women are going without needed health care because they don't have insurance, they don't have the money, and in some cases, they are too proud to go to the doctor and say, "I need care, but I can't pay for this."

For example, a public health nurse in one rural county just learned of a family in which the wife is 7½ months pregnant. She has never seen a doctor, and she plans to have the baby at home because they don't have the money to pay.

Last year, a young woman in southern Minnesota who was working full time at a minimum wage job found herself pregnant, had no health insurance, and therefore got no prenatal care. Her baby came early, subsequently died and became part of the infant mortality statistics in Minnesota.

Many families are uninsured: families of seasonal workers, of which we have many, agricultural, timber, resorts. If they have any coverage at all they get it perhaps 3 months of the year in the summer when they are working. They get laid off in the fall and have too much income from their employment to get Federal assistance.

Farm families are the highest uninsured group in Minnesota, and the ones that do have insurance often have very high deductibles. When you have $2,500 per person deductibility and a pregnant wife and so little cash income because of the pressures on the family farm that you can't even buy food, most things go by the wayside, including medical care.

In some cases, doctors are requiring cash payments from any family who has an outstanding bill. A public health nurse in a suburban county in the metro area could not get one doctor in that county to see a sick child whose mother has no cash. The closest access point was 40 miles away, in inner city St. Paul.

In St. Paul and Minneapolis, we have Providence Hospital-like programs, but in 82 of our 87 counties, we have no program, not funded with State, local, or Federal money, not any kind of funding for a pregnant woman to get prenatal care on a sliding fee or free basis. If they do not have the money, they do not have a program for care in 82 of 87 counties in Minnesota.

Let me just give you a little insurance data that confirms this. Better than one in seven of our 19- to 25-year-old women have no health insurance, no major medical, no Medicaid, no HMO, no nothing. There are 100,000 children in Minnesota with no health insurance at all. And lest we think that all these parents are slackers home watching TV, three-fourths of all the uninsured adults work; half of them work full time and most of the rest probably want to but are only able to find part-time jobs.

There are unmet needs that extend beyond traditional medical services. Here is an example. "Mary" had to walk 3 miles each way to obtain her prenatal care. She went into premature labor four different times on the way in and had to be hospitalized each time in order to stop labor, to keep that baby in the womb, the best place for that baby to be. That is not cost effective.

Many families lack money for proper food. The doctor pointed out to newly pregnant "Ann Olson" that she was seriously short of foods from the fruits and vegetables group and asked why. After a long pause, "Ann" looked up, tears rolling down her face and said she and her husband had two other children to feed and almost no money. The doctor, shaken, said she understood and said, "You do what you have to do."

The Medicaid Program in Minnesota at its current levels is definitely not the answer. Medicaid financial eligibility levels are so low, a single parent who is pregnant, has to quit her minimum wage job to become eligible. The young woman in southern Minnesota we mentioned before whose baby died had sought Medicaid for prenatal care but didn't want to quit her job, the key to her financial security. Person after person testified to the false economy of forcing people into welfare dependency just to get basic medical care.

A pregnant woman in a battered women's shelter who discovered she was uneligible to Medicaid went home to the abusing husband to ensure medical care for her unborn baby. The unborn baby was subsequently injured en vitro by continued battering.

Self-employed people such as farmers, loggers, and truckers have to sell the tools of their trade in order to get their assets down low enough to become eligible for Medicaid when times are tough to get prenatal care for their wives, and for themselves if it happens to be a self-employed woman.

Recently, providers are beginning to drop out of Medicaid. This was not a problem in Minnesota until recently, but it is now beginning to happen, and increasing quickly. A mother in northern Minnesota finally found a dentist 100 miles away that would take a Medicaid card, only to be told when she brought her child in for the appointment, "There must have been some mistake on the phone; we don't take Medicaid."

Senator DURENBERGER. You are nearing the end of your statement?

Ms. NYBERG. I think the Commission is the right thing to do and I think making a plan is the right thing to do. We are working on this in Minnesota, and we have a proposal to make. We think we know exactly what to do. Just a little hook for a question.

I think there are a couple of things to do at the national level. One is to enable maternal and child health improvements in the Medicaid reconciliation legislation. There is also something I think you should rethink. The Gramm-Rudman amendment will, in Minnesota, pull, depending on whose figures we look at, from $58 million to $238 million in Federal dollars from Medicaid alone in 1987 and 1988.

That is not the right thing to do. The right thing to do is to do what we do for our seniors. We need a comprehensive prepaid sliding fee access so that people know, those proud people that won't go in and ask for help or that make too much for Medicaid, that they can get basic access, because if they don't have the money, all these other services that nobody knows about in this patchwork system, and that are only available in urban Minnesota aren't going to help enough people.

Senator **Durenberger**. You have got it. Thank you very much.

I wonder if Dr. Smith and Dr. Taylor would defer for a few minutes since the Mayor is able to spend a little time with us. We are very grateful that he has. We recall that way back when he ran, he made infant mortality and morbidity one of his deep concerns for this community.

Mayor Marion Barry, we are grateful for your being here. Your full statement will be made part of the record. You may proceed to summarize it in any way you desire.

TESTIMONY OF HON. MARION BARRY, MAYOR OF THE CITY OF WASHINGTON, DC

Mayor **Barry**. Thank you very much, Mr. Chairman. I appear here today on behalf of the Southern Regional Task Force on Infant Mortality. The Southern Regional Task Force was formed in July 1984 to introduce a policy statement proposed by Virginia's Governor Charles Robb at the annual meeting of the Southern Government's Association. The chair of the Southern Regional Task Force on Infant Mortality is the distinguished Governor from the State of South Carolina, Richard Riley.

I appreciate this opportunity to appear, in that capacity, as well as the Mayor of the District of Columbia as well as president of the National Conference of Black Mayors, and I wanted to commend the chairman for having this hearing. It is timely.

The infant mortality rate is considered by public health officials worldwide to reflect a quality of health care of a nation. The infant mortality rate in the United States of America, the richest Nation in the world, is a disgrace.

As you indicated earlier, when I campaigned for Mayor of the District of Columbia in 1979, I made infant mortality a major issue of the campaign. At that time, our rate was about 26.7 percent. It has declined steadily since then, except for last year, it crept up a little bit, as is true for many other places around the Nation.

The question of infant mortality is not only the question of babies dying, although that is important. But we also recognize that there is the deeper health problem. It is an indicator of the quality of life and the quality of health care in a community. There are many issues related to the infant mortality that must be addressed. For instance, all studies have confirmed the rate of infant death among blacks nationally to be double that of whites. Last year in the District of Columbia, notwithstanding all our efforts here in working with the medical community and the Government and the city, the rate of infant deaths among blacks was almost three times that of whites.

Unfortunately, there appears to be an insensitivity among national leaders to the questions of infant mortality. Former Assistant Secretary for Health, Doctor Brandt testified before the Committee on Energy and Commerce in March 1984 as follows:

> The continuing high black infant mortality rate is indeed a major concern. This problem, however, is not of recent origin. It has been with us for many decades, as the chart clearly shows.

Commenting on Doctor Brandt's testimony that quality prenatal care is an important prevention opportunity in providing favorable pregnancy outcome, Representative Henry Waxman pointed out that this administration is opposing the only bill to extend prenatal services to many women who are poor and who are not covered by Medicaid.

Mr. Chairman, another issue to be addressed is low-birth-weight babies. The Institute of Medicine study, "Preventing Low Birth Weight Babies," funded by the National Academy of Sciences, has documented that low-birth-weight infants are the major cause of the high infant mortality in the United States.

Among the many factors implicated in reducing premature babies, the dominant one is low socioeconomic status. The rate of premature births among the poor is as high as 15 to 20 percent, in contrast to 7 percent in the general population.

Specific factors in the socioeconomic group contributing to small babies may include poor nutrition, poor habits of hygiene, influencing the bacterial or viral flora of the reproductive tract, high incidence of pregnancy among teenagers, heavy smoking, substance abuse of drugs and alcohol, being nonwhite, or being black, being unmarried, and having a low level of education.

Also, there is another report which is called "Preventing Low-Birth-Weight Babies." They make several recommendations:

> Reduce the risk factors associated with low birth weight in the interval between pregnancies by means of risk identification, risk reduction, enlarging the context of general health education relating to reproduction and expanding the acceptability of early and regular high-quality prenatal care to all women.

Mr. Chairman, the task force believes very strongly that no woman ought to be denied quality health care regardless of her income, her marital status, or race. Also, Mr. Chairman, when you look at the adverse effects of this situation, it has long-term impact.

One of the major questions I would like to bring before the committee is the question of unemployment among black men, which also is a factor in this discussion.

Our findings reveal that the long-term decline in the proportion of black men, and particularly, the young black men who are in the position to support a family, has an effect on infant mortality.

Mr. Chairman, we believe this ought to be a high priority item for the Nation. That is why we support the bill introduced by Senators Bentsen and Chiles. We think it is a good beginning, but more needs to be done. We need to involve the entire country in finding a solution to this problem. Our own view is that we have the technology to send men and women to the moon and to outer space. We certainly ought to spend a lot more money on trying to save the lives of our young people.

Mr. Chairman, the cost to this Nation is great, not only in terms of the lives of those babies that die, but in dollars and cents, as well. The cost of technical medical care alone is $50,000 to $100,000 for a just-born, preterm baby who may or may not survive.

In addition, Mr. Chairman, the task force believes that the cost of education for handicapped and learning-disabled children is extensive. Add to this the cost of maintaining prison systems, bursting at the seams with children born to women who were teenage mothers, add to this cost of Aid to Families with Dependent Children, and Medicaid when jobs and training could keep the poor from being unemployed and unable to adequately take care of their families.

The list could go on and on. Mr. Chairman, our task force believes very strongly that we ought to pay on the front end because if we don't, we are going to pay more on the back end.

Every life is precious, and no amount of money could be too much to try to save a life. We would like to commend the vision and encourage the sponsors of this legislation, as I said earlier, Senators Chiles and Bentsen. I thank you, Senator Durenberger, for your support and your having this hearing here in Washington at Providence Hospital, and it is time we got on with the job of establishing this commission, make this a national priority and save some lives, because every life is important.

Thank you very much.

Senator DURENBERGER. Do you think this is a better environment for a hearing than the Dirksen Building or someplace like that, a little closer to reality?

Mayor BARRY. I could suggest a couple of other places, Anacostia, but at least we are making some progress of getting them out of Capitol Hill and into the community. I am sure other places in the community, but this is much better. I think the Senate ought to do more of this.

I think it is great up there at the Dirksen Building. I come up there quite often, and other buildings, but these hearings ought to be brought out to the people so that people can see what is going on. We commend you for doing that.

Senator DURENBERGER. Let me ask you just one question. We started on the assumption that if we had better prenatal care, if we got to the woman before the baby got to the hospital, in effect, we could reduce a lot of the problems. One of the previous witnesses said that if you look at the problem nationwide and if you look at particularly the problem for nonwhite mothers, that one of the problems is we have what they call racial and ethnic barriers to services; the Nation hasn't made a strong enough commitment to educate nonwhite health care providers to work with these mothers.

That goes across the board. That includes refugees as well as native Americans and as well as blacks. Do you have a view on that part of the problem, what we ought to be doing about it as a nation?

Mayor BARRY. Mr. Chairman, I think it probably is a little bit deeper than that. Before I answer that, I would like to introduce Dr. John Niles who is sitting over on the first row. He is a member of the Committee on Infant Mortality and is helping make the recommendations, is out there monitoring what we are trying to do. But in talking to health care providers, prenatal care is awfully important. I have been told by physicians that the body really needs to be taken care of long before you get pregnant. That is, something happens to the body when you smoke a lot or when you drink a lot or use or abuse substances, chemicals, whether legal or illegal, and that studies have shown that prenatal care will help some. But if a mother, potential mother has had her body taken care of 2, 3, 4 years before, then it adds to the probability that prenatal care will probably enhance that.

Also, Mr. Chairman, this process of access and education about it, I think that should start in our public schools and in our educational system. Here in the District, we are putting forward a very strenuous curriculum. It is controversial to talk about, as you know, in this society, to talk about real issues of life, about having babies, having pregnancy, teenage pregnancy.

We went out to one of our high schools, and about 1,000 young people were in the audience. We had about 20 young people lined up to testify about teenage pregnancy. Some of them had been pregnant, and some of them had not.

Young people were very specific in their candor about it. They said if they had known more about what was happening to them, either from their mothers, who tried not to talk about sex—except don't do it, but that doesn't solve the problem—or from the school system, they almost universally said that. That would not maybe change everybody's mind, but it would make them a little bit more aware about themselves.

So I think access is important. Health care providers have to be more sensitive; I also think education earlier about the body and the reproductive system and what are the alternatives. Obviously, it is a sensitive subject to talk about, but I think we need to talk about it. We can't bury our heads in the sand. I was talking to some ministers at a ministers conference. I said I wanted them to help me in warning teenagers against teenage pregnancy and infant mortality. I said, "I know a number of you don't want to talk about this subject in the pulpit, but I think it is as important as talking about prayer in the pulpit."

A couple of ministers said, "Well, Mr. Mayor, I'm not sure we can talk about that subject."

I said, "It is not going to go away. You are going to face it on the front end, or you are going to face it on the back end."

They may not do it. But it doesn't matter. What is important is the issue.

Senator **Durenberger**. I tried it once, and they said, you know, rather than talking about sex, we ought to talk about love, and you know, if you love those kids enough, you are going to deal with sex in a way that it ought to be dealt with.

Mayor **Barry**. That is a good point.

Senator **Durenberger**. I really appreciate your comments here today, and I appreciate your taking the time to come.

Mayor **Barry**. I would like to thank the other panel members for allowing me to interrupt their testimony. The life of a mayor is almost as busy as the life of a Senator, a little harder, but [laughter] there are 16 fewer mayors. There are 23 fewer mayors in the Congress of the United States, so they understand some of this, that it was a tougher job, but again, thank you, Mr. Chairman, for this.

Senator **Durenberger**. Thank you. You bet.

[Mayor Barry's prepared statement follows:]

Prepared Statement of Mayor Barry

Mr. Chairman, members of the committee, I appreciate the opportunity to appear today in support of bill S. 1209, to establish the National Commission to Prevent Infant Mortality.

The infant mortality rate is considered by public health officials worldwide to reflect the quality of health care of a nation.

The infant mortality rate in the United States of America, the richest Nation in the world, is a disgrace.

When I began my campaign for Mayor of the District of Columbia in 1979, I raised as an issue the high rate of infant mortality in the District of Columbia, which at that time was the highest in the country. After my election I established a blue-ribbon committee to address the problems of infant mortality. This advisory group, one of the first in the Nation, has grown over years to become the Advisory Board on Maternal and Infant Health. Last year, I established a task force to study teenage pregnancy prevention, which grew out of the work of this advisory board.

According to officials at the National Institutes of Health, there has been a statistically significant decline in the infant mortality rate in Washington, DC since 1979. However, after years of steady decline, the rate increased in 1984. There has also been a decline in the national infant mortality rate to the lowest rate in history. However, further declines have tended to level off in recent years.

Assistance from the national level is needed to help generate further reductions in infant mortality. The creation of the National Commission to Prevent Infant Mortality is necessary to develop a national policy and programs to reduce infant mortality in the United States.

There are many issues related to infant mortality that must be addressed. For instance all studies have confirmed the rate of infant deaths among blacks nationally to be double that of whites. Last year, in the District of Columbia, the rate of infant deaths among blacks was almost three times that of whites.

Unfortunately, there appears to be an insensitivity among national leaders to the infant mortality problem. Former Assistant Secretary for Health, Edward Brandt, testified before the Committee on Energy and Commerce in March of 1984 as follows: "The continuing high black infant mortality rate is indeed a major concern. This problem, however, is not of recent origin. It has been with us for many decades, as that chart clearly shows."

Commenting on Dr. Brandt's testimony that quality prenatal care is an important intervention opportunity in improving pregnancy outcome, Representative Henry A. Waxman pointed out that this administration is opposing the only bill that would extend prenatal services to many women who are poor and who are not now covered by Medicaid.

Another issue to be addressed is low birthweight babies. An institute of medicine study, "Preventing Low Birthweight", funded by the National Academy of Sciences, has documented that low birthweight infants are the major cause of the high infant mortality in the United States. Among the many factors implicated in producing premature labor and low birthweight babies, the dominant one is low socio-economic status. The rate of premature births among the poor is as high as 15% to 20%, in contrast to about 7% in the general U.S. population. Specific factors in this socio-economic group contributing to small babies may include poor nutrition, poor habits of hygiene influencing the bacterial or viral flora of the reproductive tract, a high incidence of pregnancy among teenagers, heavy smoking, substance abuse with drugs and alcohol, being non-white, particularly black, being unmarried, and having a low level of education.

The "Preventing Low Birthweight Report" made several recommendations among which are:

1. Reduce the risk factors associated with low birthweight in the interval between pregnancies by means of risk identification, risk reduction, enlarging the context of general health education related to reproduction and expanding provisions for family planning.

2. Increase the acceptability of early and regular high-quality prenatal care services to all women.

Even more importantly, rather than limiting our efforts among poor women to medical interventions, we must address the issues and conditions that have made them poor and place them at high risk of losing their babies.

The high unemployment rate among black males stands out as a particularly glaring issue:

A recent study from the University of Chicago entitled, "without jobs, black men cannot support families", came to the forefront during the recent Black Caucus brain trust meeting. The article concludes that in the 1960's, scholars readily attributed black family deterioration to the problem of male joblessness. However, in the past 10 to 15 years, in the face of the overwhelming focus on welfare as the major source of black family break-up, concerns about the importance of male joblessness have receded into the background.

Unemployment rose sharply for black male teenagers in the 1960's and remained high during the prosperous 1960's. Similarly, unemployment rates for black men 20 to 24 years of age rose sharply during the mid-70's and have remained high.

The adverse effects of unemployment and other economic problems of family stability are well established in the literature. The weight of the evidence on the relationship between employment status of men and family life and married life suggests that the increasing rate of joblessness among black men merits serious consideration as a major underlying factor in the risk of black single mothers and female-headed households. Moreover, when the factor of joblessness is combined with high black male mortality and incarceration rates, the proportion of black men in stable economic situations is even lower than that conveyed in the current unemployment and labor force figures.

These findings reveal a long-term decline in the proportion of black men, and particularly young black men, who are in a position to support a family.

Poverty and its effects on poor pregnancy outcome must be addressed on a national level. A regional effort of which I am a part and which is taking assertive action to alleviate this problem is the Southern Regional Task Force on Infant Mortality or the Southern Governor's Association. The Southern Governor's Association has made infant mortality a priority agenda item for Southern policymakers to address. In November, the association will issue a major report with recommendations focusing on changes needed at both State and Federal Government levels. This report will also provide model legislation which could facilitate these changes. Their leadership on this issue, involving not only Governors, State legislators, mayors and health and community leaders, can provide a motivating force for a similar effort at the national level. Local efforts and even regional efforts require national support in policy and funds.

The cost to this Nation is great, not only in terms of the lives of these little babies but in dollars and cents as well.

The cost of technical medical care alone is $50,000 to $100,000 for a just-born, preterm baby who may not survive, or if it does survive, may be handicapped with learning and physical problems.

In addition, the cost of education for handicapped and learning-disabled children is extensive. Add to this, the cost of maintaining prison systems bursting at the seams with prisoners who were the children born to teenage mothers. Add to this, the cost of Aid to Families with Dependent Children [AFDC] and Medicaid when jobs and job training could keep the poor from being unemployed and unable to adequately take care of their families.

All of the above are substantial and increasing monetary costs, but do not, can not, highlight the societal and human costs of infant mortality and low birthweight babies.

We commend the vision and courage of the sponsors of this legislation, Senators Lawton Chiles and Lloyd Bentsen, and pray for its speedy passage into law.

Senator DURENBERGER. Dr. Richard E. Smith, I appreciate your being here from Detroit, MI, and your statement will be made part of the record.

You may proceed to summarize it.

Dr. SMITH. Thank you, Mr. Chairman, and members of the committee. I am Dr. Richard Smith. I am an obstetrician and a director of the Young Adult Clinic at Henry Ford Hospital, which is in Detroit. I am also a member of the clinical faculty at the University of Michigan, and I am a member of the March of Dimes Community Service Advisory Committee. The March of Dimes has been dedicated to the prevention of birth defects for more than a quarter of a century.

I wish to thank you for the opportunity to present the views of the March of Dimes on Senate bill 1209, which would establish a National Commission to Prevent Infant Mortality. Since low birth weight is the most common birth defect and causes the greatest a national commitment to ensuring that all pregnant women, especially those at medical or socioeconomic risk, receive high quality care.

Prenatal care is the single most important factor for reducing infant mortality, and we know that it works. We have a program in the city of Detroit, sponsored by the March of Dimes, which has spearheaded an effort focused on preteen pregnancy. We have addressed this problem over the last 5 years, at a time during which the teenage pregnancies were approximately 25 percent of the babies born in this area.

Similarly, 25,000 of these women have babies which died in the first month of life. We focused our attention in this area. Over the last 5 years, we have been able to reduce this level of mortality to 8.4 per 1,000, which is well below the projected estimate for 1990, and these are black teenagers whose average age was 16 when they had their babies, which means they got pregnant at 15, a very high-risk population.

Quality prenatal care make possible the detection and treatment of high risk medical and obstetrical complications, such as early detection of preterm labor and prompt treatment of internal infections. Quality prenatal care visits also make possible the introduction and reinforcement of educational messages which will guide the woman in protecting her health and that of her baby.

We know that education is just as important as medication in providing services to teenagers as well as to pregnant women.

The March of Dimes believes that the bipartisan National Commission to Prevent Infant Mortality, which would be established under this legislation, is an ideal group to conduct this next vital step: To recommend strategies for more consistent prenatal care policy and greater access to medical care services. It will focus nationwide attention on the infant mortality issue and will coordinate the excellent work done by such groups as the Southern Regional Task Force, the March of Dimes, and the American College of Obstetricians and Gynecologists.

The Commission will also channel, Federal, State, local, and private resources to determine the barriers to health care and to recommend to Congress a national policy which will eliminate these barriers.

When the Commission's report is completed, the March of Dimes stands ready to do its part in a concerted national effort to reduce infant mortality.

Again, on behalf of the March of Dimes, I want to thank you for holding hearings on this legislation. At issue is our Nation's commitment to the well-being of future generations, and that is why the March of Dimes supports this legislation, and that is why I have come here from Detroit, the front line, where we are fighting this battle against infant mortality, to urge you to do all you can to ensure the passage of this most important piece of legislation.

Thank you.

Senator DURENBERGER. Dr. Smith, thank you very much.

Dr. Taylor.

Dr. TAYLOR. Thank you very much, Mr. Chairman and staff associates. The National Association of Public Health Policy and the Maternal and Child Health Council of that Association is pleased number of deaths under the age of 1, the March of Dimes believes that this bipartisan legislative initiative will go a long way toward the development of a national policy aimed at reducing infant mortality.

We applaud the bill's sponsors, Senator Lawton Chiles and Senator Lloyd Bentsen, as well as my two Senators from the State of Michigan, Senator Riegle and Senator Levin for their cosponsorship of the bill. We congratulate you for calling this hearing today to look at the causes of infant mortality and the programs aimed at lowering the occurrence of infant mortality.

We have heard a lot about the issue this morning, and we should. Infant mortality is a serious problem in the United States. Out of every 1,000 infants born in this country, 11 never live to see their first birthday. In some sections of the country, this rate is twice as high.

My home State of Michigan is one of the few Northern States which has an infant death rate above the national average. In Michigan, the infant mortality rate is almost 12 per 1,000. The black infant death rate still remains at over 23 per 1,000, and in parts of the city of Detroit, it has been as high as 33 per 1,000, which is triple the national average.

Infant mortality in the United States is not a new problem. To help tackle the problem the March of Dimes has played a leading role in organizing medical care for high-risk mothers and babies through regional intensive care nurseries; in providing equipment and staff training to put centers into operations; and in setting up communication and transportation systems to link small communities to major facilities.

The March of Dimes has also helped by eliminating duplication of services and of technology and personnel.

The prevention of low birth weight would contribute significantly to the reduction of infant mortality in the United States. Over 3½ million infants are born annually. Nearly 7 percent, or 250,000, are born weighing less than 5½ pounds, which is what we describe as low birth weight.

Low birth weight is a leading factor in infant mortality. It is the greatest cause of death in the first year of life. A low-birth-weight infant is 40 times more likely to die in the first month of life than a larger infant.

Low-birth-weight infants who survive are twice as likely to suffer one or more of the following handicaps: deafness, blindness, learning disabilities, cerebral palsy, epilepsy, chronic lung problems, and mental retardation.

The cost to care for these infants and children is enormous.

The National Institute of Child Health and Human Development estimates the direct costs alone for neonatal care for these infants exceeds $2 billion annually.

Preventing low birth weight is an approach considerably less costly, both socially and economically, than additional investments in the neonatal intensive care. So how can we prevent low birth weight and thus lower the infant mortality rate in the United States?

The overwhelming weight of the evidence is that prenatal care reduces low birth weight. This finding is strong enough to support to be here and to briefly summarize our testimony. I brought along with me two magazine articles.[1] They look very different: Ladies Home Journal, and Scientific American, appealing to different audiences, but surprisingly both talking about the same thing. Why in the United States are we losing so many of our babies, and why are we dooming others to long lives of disability?

One takes a very highly personalized approach in many accounts of these problems. The other is looking at statistics, trends, and issues of debate within the scientific and medical community. But surprisingly, both present many positive and constructive solutions. Solutions are available.

I would like to focus on three areas. The first is the need for the Commission; the second is potential ways in which it might go about its business; and the third is what might be some of the accomplishments of the Commission, were it established.

The purpose of the Commission is to look at the effectiveness of Federal, State, and local government policies and programs, and also to look at contributions that private interests and individuals could make to solving the low birthweight and the infant mortality problem.

Dr. Richard Smith, my colleague from Michigan, has been part of the solution, and I am glad that he pointed out the difficulties that we had in our State when infant mortality got very bad, and it still is in our State.

There may not be a "good time" to address this problem. Michigan, when our infant mortality rates went up, had the worst deficit of any State in the country. Our Governor was committed to bringing that deficit to zero, which he did, and we have had a balanced budget for 2 years. But he also wished to address the infant mortality problem. He found that this was also possible and that he could achieve these two objectives simultaneously.

One of the ways he did that was to bring together the public and the scientists together in a forum. We called it a Task Force on Prenatal Care, but it had the same effect. It educated the public. It brought scientists and their solutions into the legislative arena. A package was hammered out, and we came out with the Prenatal Care Program, a gap-filling program with a cementing legal structure which made the various levels of government work. I will elaborate on that in just a minute.

I think that the Federal Commission could well provide such a forum for public education and for crafting the kind of broad, bipartisan solutions we need to address this problem. Because after all, children aren't born Republican and Democrat. They are citizens of the country. They vote for county commissioners, but they also vote for President of the United States, and both parties and all levels of government need to be stronger in working on this problem.

What about areas of investigation? I don't think that we should do "just another study". There are plenty available. What are some of the headlines from these studies? Dr. Smith mentioned the outstanding work at the National Academy of Sciences. They are pointing to prenatal care and eliminating the problem of low birthweight. We have too many of these small babies coming into our system. We can do something about that, and the Michigan solution adopted a gap-filling approach. We are using our Federal resources, Medicaid, title V, PCH, and others, but we found that there were some low-income women that couldn't quality for Medicaid and didn't have their own health insurance.

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[1] See p. 327 and p. 330.

But they were low income. So our Government is going to provide some financial assistance for prenatal care for these women. But we also are going to make available access to care for women with private insurance or for those that fall above the income guidelines. Even Medicare patients sometimes have a problem in finding a source of care.

This is on a 2-year experimental basis. Here is a State that is a laboratory for experimentation. Can we weave this web of Federal programs together, fill the gaps, and with the State legislation of a basic health service, assure prenatal care? We think that we can, and our legislature will make a determination this March as to that declaration.

The Southern Governors have testified they have made several outstanding reports and recommendations, and I think they ought to be looked at to see whether or not we can maybe move into other States and localities around the country.

Sara Rosenbaum of the Children's Defense Fund has examined the unfulfilled promise of many of our Federal health programs, and I think the feeling is that perhaps some of these programs are really not designed to reduce low birthweight and infant mortality. They are there, but they may be working at cross purposes. Their promise has not born fruit. But maybe with some changes, perhaps there is some hope that they can work.

Should the Medicaid Program be restructured? We have another report on that. Should it be broken down into preventive health components and continuing care?

There is a very good rationale presented in another study for doing this, to give some of the emphasis on the preventive health care side. The Federal Government had a program called Improved Pregnancy Outcome.

Senator DURENBERGER. Are you getting near the end of the statement?

Dr. TAYLOR. Yes, I am.

Senator DURENBERGER. OK.

Dr. TAYLOR. They are very close to saying that this was effective in reducing infant deaths.

But it has been terminated. Should we revive it in some form? There are many avenues of investigation that might bear fruit.

Accomplishments: I think the idea that a national policy might be enacted to make low birthweight and infant mortality a priority would be a major accomplishment. There should be an administrative and legislative framework for doing this.

Here was another one, the "Intergovernmental Options, a Federal Report for Reducing Infant Mortality," many good suggestions. Can we put these recommendations into effect?

Senator DURENBERGER. Who did that?

Dr. **Taylor**. This was done by contract to the George Washington University, but it is a Federal report. It points out all the eligibility problems.

Senator **Durenberger**. Who owns it? What department?

Dr. **Taylor**. Who owns it? Health and Human Services?

Senator **Durenberger**. The date?

Dr. **Taylor**. The date on it? This is a 1984 report. The conference was held September 13, 1984.

Senator **Durenberger**. OK.

Dr. **Taylor**. None of these recommendations have been put into effect at this point.

At the Federal level, we had leadership for many years through the Children's Bureau. That has stopped. I think to strengthen the Federal Government, we need an administrative unit concerned with the wellbeing of children.

States can do planning, and I think a lead State agency should be appointed on infant mortality. The local level should be the final arbiter of care. Intergovernmental solutions are needed. There are many success stories.

I won't go into them. They are in my final statement. I want to conclude by saying we are pleased to support this bill.

Senator **Durenberger**. Thank you all very much. Let me turn to Luanne and Sara as the pediatrics has been referred to in Dr. Taylor's testimony. Could you give us some examples of where the current failures are in MCH? Take the various Social Security titles, which is our effort to do something. Where are we sort of misdirecting or mistargeting our resources?

Ms. **Rosenbaum**. The article that Jeffrey Taylor is referring to is a law review piece that I wrote a couple of years ago, which examines a variety of Federal grant-in-aid programs. What I found was that putting aside some very serious deficiencies that can only be corrected by the kind of Federal legislation that you have sponsored, there are a multitude of implementation and administrative issues that could be rectified by States tomorrow raning from the eligibility levels at which Medicaid Program is established to the benefits that are covered.

Luanne referred to the problem of Medicaid ineligibility for women earning the minimum wage in Minnesota. That can be easily remedied by Minnesota. The State can, any time it wants, raise the eligibility levels for its program.

Another basic issue is where a woman and her infant get to apply for Medicaid. Instead of moving the application areas out into local public health departments and places where people come from health care, women are made to travel sometimes many miles to a separate welfare department to apply, for no reason. Nothing in Federal law prevents the strategic location of the application center. Moreover, at the time that a woman applies, no one is there really to assist her to apply for related programs that she may also be eligible for.

There are, of course, some needs, such as those which your Medicaid legislation addresses, that we can't correct without a Federal statutory change. But there are other examples, improvements that States can make now. For example, about 13 States now place very stringent limits on the number of in-patient hospital days they will pay for Medicaid recipients, which has a profound impact on high-risk infants. States could choose instead to pay for all medically necessary care.

We have talked a lot about the cost ineffectiveness of neonatal technology. It should be pointed out that there are a lot of data on the neonatal effectiveness of technology because much of the technology has reduced long-term handicaps.

With respect to title V, the threshold problem is that it is a tiny program. I was doing some math while we were talking. I took the 6 million uninsured women living below the Federal poverty level and divided that number into the $400 million title V dollars that go to States for everything, not just maternity care. That is about $600 per woman, which clearly might cover prenatal care, but certainly not a hospital delivery, recovery we know that only a portion of title V funds go to maternity care.

Beyond that is the issue that has been raised, of among many States, tendency to simply shove title V dollars out the door.

Senator **Durenberger**. The manure spreader we were talking about earlier?

Ms. **Rosenbaum**. Yes; without really talking about what they want to accomplish, what other services are not provided by other programs. There is a general failure to target. Generally, I found, in my own research, a tremendous shortcoming in how services are established in the community and integrated, so that people who rely on the volatile Medicaid Program for their eligibility, especially the working poor, are left with nothing. For example, we have pregnant women who, because of the changes that we have made in AFDC and Medicaid coverage for the working poor, suddenly find themselves in the seventh month of pregnancy without a Medicaid card. Instead of having some sort of supplemental program that can pick that woman up and keep her with her obstetrician, we are finding that—and this has come out of our Mississippi office, especially—the obstetrician says to the woman, "Well, we are sorry. If you find some money between now and when your baby is due, come on back, but we are terminating our coverage and your services now."

There is a panoply of implementation problems that unfortunately, never dies. It is nuts and bolts, nitty-gritty issues that never get paid attention to by national commissions.

Commissions tend to deal in global matters, and it is the old "for want of the nail" story. I urge you, in thinking about the mission of this panel, to not only concentrate on the big picture items; that is, who has health coverage and who doesn't, which I think is fundamental to solving the problem, but where are services located? How are applications processed? How are women assisted? We have States where women are handed 40-page applications, when the only thing the State needs to know is how much money the woman makes and whether she is pregnant in order to decide if she is eligible for Medicaid.

Those are just as important, and of course, they go to the heart of what we all mean when I think we talk about coordination of services.

Senator **Durenberger**. I think I had a hard time this morning getting up and looking into the Washington Post, and there is this full-page ad by Planned Parenthood on title X problems. My problem was that because the three Members of Congress and perhaps others took it upon themselves to try to get rid of—I don't want to start characterizing this. It is a very controversial subject—but a lot of dollars, Planned Parenthood took a lot of dollars that should have gone into counseling.

Ms. ROSENBAUM. That is right.

Senator DURENBERGER. That they had to use to influence Senators and Congressmen. And I just shook my head, because I know I am coming to this thing today to deal with these real problems. I said, "My God, what a misuse of resources."

Yet, if I say that, someone will think I am dumping on Planned Parenthood. The reality is no, I am dumping on a system that is still too tightly controlled by politicians and not controlled by people who really, down at the local level, would like to be in that one-on-one business of dealing with the opportunity of motherhood.

Ms. ROSENBAUM. We face that all the time. At CDF, we have spent the past half dozen years on the very basic question of who is going to pay. We haven't been able to get to issues of quality and targeting, because in a dozen years, it has taken the combined resources of our organization just to drive home again and again that there are 6 million women and about as many poor children who have no way to purchase health care and two-thirds of whom are probably working or in working families.

Senator DURENBERGER. Let me ask the two people from—and I am not going to avoid Luanne, but her statement was so terrific, it stands. I forgot the hook I was supposed to hang the question on.

Ms. NYBERG. That is OK. I will catch you later.

Senator DURENBERGER. One of the things we know in Minnesota, as reflected in Ms. Nyberg's testimony, is that the advent of competition and consumer choice gives us both an opportunity at some temporary problems. The opportunity comes in the fact that, as Ms. Nyberg said, everybody in this country ought to have access to a prepaid health plan, so that it isn't a matter of certain people can go to these hospitals and certain people can go to those hospitals. I don't know what the implication was. But when Marion Barry said, "Well, this was nice, but you should have been someplace else," one of the implications I got out of that was that there are more people with serious problems, maybe at a different hospital in this community.

That is not the way I think you are implying that we ought to look at this. I mean, I ought to have a card in my pocket that says what my health plan is, and he ought to have that same kind of card, and the folks in Anacostia ought to have that same kind of card. When they show up in whatever hospital, they will get the same level of care, same quality physician and so forth, because you can't tell whether they are Medicaid, employed by the Government, retired Medicare folks or whatever.

The problem is how do you get to that, and the only way you are going to get to that, of course, is if politicians make decisions to finance access for everybody in this country to those kinds of health plans.

In various parts of the country, we are experimenting, if you will, with accessing the indigent to health plans. As Luanne pointed out, we have made a decision, because we have all these elderly, to put 36 million of those, eventually, into private health plans. But the resistance at the local level of doing that is, "Well, we don't have the money to do it. We have the money to run these public hospitals somehow, but we don't have the money to buy people into health plans."

I am wondering what the realities are in, let's say, a place like Detroit or southeastern Michigan. It is probably a tough transition from having all of these hospitals and not knowing what to do with them to a situation where you don't put money in the hospitals, you put them into health plans.

Is there a growing cognizance in southeastern Michigan in the State of Michigan?

Dr. **Smith**. I will answer that.

Senator **Durenberger**. Maybe we ought to be buying people into health plans and let the plans work.

Dr. **Smith**. I think you certainly have to begin to provide services. There has been a lot of talk this morning that technology can't do any more to lower the infant mortality rate. If you look at the graph infant mortality declined for two reasons: one, you had dollars being spent by the Medicaid Program; and two, the technology needed to care for low birthweight infants has improved.

That is what caused the steep decline. Now we see that there are other factors to be addressed. The number of dollars that the Federal Government has been spending for Medicaid hasn't changed too much? If anything, they are just marginal dollars. They are getting the job done, but just barely getting the job done. As somebody else already has spoke to this morning, there are physicians who cannot truly run a practice without the marginal dollars being supplied by the Medicaid Program. Although the dollars are there and have been effective through the years, the effectiveness of the dollars is dwindling.

As has been pointed out through a study by Dr. Jeffrey R. Taylor, every dollar that we invest in prenatal care services, saves $4 to $6 dollars on the cost of caring for low birthweight infants. If we choose not to spend that type of money or to make that type of investment in prenatal care and access to services, then we will continue to lose money in the long run. It will be a drain on the system.

We do need to provide services to women who are pregnant. If they are pregnant they are going to show up in a labor area somewhere. We should be concerned with the condition of their pregnancy.

Senator **Durenberger**. I think we are going to have to get moving here. I thank you all very much for your testimony, and am very grateful, particularly to CDF in the work that you are doing in raising the visibility of this issue and to those of you who came all the way from Michigan. I am grateful.

[The joint prepared statement of Ms. Rosenbaum and Ms. Nyberg and the prepared statements of Dr. Smith (with responses to written questions) and Dr. Taylor (with responses to written questions) follow:]

TESTIMONY BY THE CHILDREN'S DEFENSE FUND BEFORE THE SUBCOMMITTEE ON INTERGOVERNMENTAL RELATIONS OF THE COMMITTEE ON GOVERNMENTAL AFFAIRS OF THE UNITED STATES SENATE, REGARDING S.1209, TO ESTABLISH A NATIONAL COMMISSION TO PREVENT INFANT MORTALITY

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October 31, 1985

Mr. Chairman and Members of the Subcommittee:

The Children's Defense Fund is pleased to have this opportunity to present testimony today on S.1209, which would establish a National Commission to Prevent Infant Mortality. We are grateful that you, Senator Chiles, the chief sponsor of this bill, and all of the bill's co-sponsors have brought to federal lawmakers' attention the need for a strong national presence in the effort to reduce infant mortality.

The Children's Defense Fund is a national public charity created to provide long-range, systemmatic advocacy on behalf of the nation's poorest children. Through research and policy analysis and advocacy at all levels of government, we attempt to place children's needs higher on the public agenda. The issues with which we are chiefly concerned include child health, child development and day care, child welfare, education, and adolescent pregnancy.

Since its inception, the health division's central concern has been ensuring that all children and pregnant women, regardless of family income, have access to comprehensive, high quality health care. We have sought to achieve that goal by advocating for reforms in governmental programs that finance or provide health care to poor and otherwise uninsured families. Recently we have also begun to examine issues relating to private health insurance coverage for poor workers and their families.

In 1984, CDF initiated a special health project in Minnesota. We did this for two reasons. First, the Minnesota project is part of CDF's ongoing efforts to improve state and local health programs for poor children.

Second, we were quite interested in determining how a state such as Minnesota, with its extremely sophisticated, corporatized medical care system, has chosen to deal with that portion of the population that is neither insured nor financially well enough off to afford the cost of entry into that system. Minnesota is a national leader in its commitment to cost containment and competition in health care delivery. Thus, how the state has chosen to address the problem of financing and delivering health services to the medically indigent is of particular importance and interest to us. There exists a general pressing need to solve this problem, but that need is heightened in a health care climate such as the one in Minnesota, in which a highly businesslike approach to health service delivery is undoubtedly placing special pressures on health providers and insurers to reduce the volume of uncompensated care they provide.

In our testimony today we will present an overview of national statistics on maternal and infant health and will review data regarding poor mothers and childrens' access to health care. We will also present this Committee with information regarding what we have learned to date about the maternal and infant health status of low income Minnesota families and their access to health care. Finally, our testimony concludes with recommendations regarding the work of the National Commission.

I. An Overview of National Maternal and Infant Health Statistics and Trends

The United States can proudly claim one of the world's finest health care systems. American doctors daily perform miracles that are virtually unmatched. Indeed, nowhere have these miraculous strides been more evident than in the area of infant health. From 1965 to 1979, according to the Congressional Research Service, the nation's infant mortality rate fell by nearly half.[1] Final mortality statistics for 1983 indicate the lowest overall infant mortality levels in United States history.[2]

However, while we have made great strides, there is cause for grave concern:

- Over the past several years, the nation has experienced a slowdown in the rate of decline in infant mortality rates. According to Dr. Edward Brandt, former Assistant Secretary for Health for the United States Department of Health and Human Services, "slowing to this degree has not been observed since the plateau in infant mortality between 1955 and 1965."[3]

- Prenatal care is strongly associated with infant mortality. Babies born to women who received no prenatal care are three times more likely to die in the first year of life and are at far greater risk for developing lifelong handicapping conditions.[4] Yet between 1981 and 1983, the nation experienced *two years of successive increases nationally* in the percentage of women receiving little or no prenatal care.[5] Furthermore, *since 1979*, the nation has experienced *no* improvement in the percentage of women beginning care early in pregnancy.[6]

- While our overall infant mortality rate continues to decline, albeit slowly, data on mortality rates for infants between ages one month and one year are profoundly disturbing. Between 1982 and 1983, the post-neonatal mortality rate among Black infants increased by three percent nationally;[7] among white infants, there was no decline in the 1982 postneonatal mortality rate.[8] Noting this trend in December, 1984, Dr. Brandt observed that "postneonatal mortality has been regarded as most susceptible to preventative efforts, and a rise in this mortality rate is a serious concern."[9]

- Black infant mortality continues to be almost twice that for white infants.[10] When Black infant deaths by cause are compared to white infant deaths, the discrepancies are truly startling. In 1983, Black infants were 3.4 times more likely to die from disorders relating to short gestation and low birthweight; three times more likely to die from pneumonia and influenza; 2.1 times more likely to die from maternal complications from pregnancy; 2.1 times more likely to die from Sudden Infant Death Syndrome (SIDS); 2.0 times more likely to die from respiratory distress; and 1.7 times more likely to die from infections during the perinatal period.[11] In 1981, had Black infant mortality rates been as low as those experienced by White infants, CDF projects that 5598 fewer infants would have died.[12] One national expert has estimated that in 1980 approximately 22,000 preventable infant deaths took place. While Blacks accounted for only seventeen percent of the United States population in 1980, Black babies accounted for sixty percent of all preventable infant deaths that year.[13]

- Perhaps most disturbing is the fact that a large portion of preventable infant mortality in America, as has been noted by Dr. Brandt and most recently by this Administration in its recent report, *Black and Minority Health*, is occurring among full-term, full-weight infants weighing more than 5.5 pounds at birth.[14] Indeed, one expert has estimated that thirty-eight percent of the infants who died in 1980 were actually born at full term and at full weight.[15] We tend to think of infant mortality as a problem emanating solely from low birthweight and prematurity, but in fact, a substantial portion of the nation's infant mortality problem is presently occurring among normal weight infants.

These disturbing facts underlie the nation's current infant mortality rates. Because our rate of progress in reducing infant mortality is so slow, both we and the United States Department of Health and Human Services have projected that the nation will fall far short of the nation's modest 1990 goals for improving infant health. These goals were set by the Surgeon General of the United States in 1979 and reaffirmed by this Administration in 1984.[16] They include the following:

- By 1990, ninety percent of all pregnant women should receive prenatal care in the first three months of pregnancy.
- By 1990, no more than five percent of infants should be born at low birthweight, and no more than nine percent of infants from any racial or ethnic subgroup should be born at low birthweight.
- By 1990, infant mortality rates should not exceed 9 deaths per 1,000 live births, and infant mortality rates for racial or ethnic subgroups should not exceed 12 deaths per 1,000 live births.[17]

Yet by 1985, it has become clear that these goals will elude America:

- The nation's rate of progress in improving pregnant women's access to early prenatal care is so slow that, unless our anual rate of progress improves by 600 percent per year between now and 1990, we will not meet the Surgeon General's goal for prenatal care. For non-white women, the annual rate of progress must improve by 700 percent per year in order to meet the goal.[18]
- The annual rate of progress in reducing the number of infants born each year weighing 5.5 pounds or less is equally disappointing. Unless the rate of progress improves by 300 percent each year, the nation will not meet the Surgeon General's goals.[19]
- Progress in reducing the number of Black infants who die each year is so slow that the nation would have to boost its annual rate of progress by 170 percent each year to meet the Surgeon General's goal.[20]

The nation's rate of progress in meeting these goals is literally a matter of life and death for thousands of babies. Between now and 1990, 22,000 babies will die in America, primarily because they were born too small to survive.[21] Many more will be handicapped for life. We can prevent 2,700 of these deaths -- one out of every eight -- simply by making sure that expectant mothers receive adequate prenatal care.[22] Another 13,800 deaths in which low birthweight plays a major role may be reduced if mothers receive early prenatal care.[23]

II. Poverty: The Single Greatest Cause Underlying the Nation's Poor Infant Health Statistics

Experts point to numerous factors that influence the health outcomes of infants. We believe however, that poverty is the single greatest factor. Poverty virtually destroys a family's ability to obtain needed health and related services. The social isolation and absence of supports caused by poverty leave in their wake illness, death and a lifetime of handicaps for a disproportionate number of children born to disadvantaged families.

Poverty is strongly associated with poor health among children.[24] Poor children face an increased risk of low birthweight, neonatal and postneonatal mortality, and such disabilities as retardation, cerebral palsy, autism, vision and hearing defects, and developmental delay.[25]

Many of the underlying causes of death may emanate directly or indirectly from poverty. For example, recent evidence suggests that Sudden Infant Death Syndrome (SIDS), now a leading killer of infants aged one month to one year, is associated with elevated levels of lead in a baby's bloodstream.[26] Elevated lead levels pose particular problems among lower income children.

Moreover, poverty is associated not only with a greater propensity toward illness and handicap but also with a greater severity of illness when illness patterns between poor and non-poor children are compared. Thus, for example, a cold that afflicts a poor infant is more likely to develop into a deadly respiratory infection because of inadequate housing, poor nutrition, and lack of access to medical care.

Poor pregnant women and infants are in far greater need of comprehensive medical and related services. Yet many low income families are unable to get the medical care they need because the poor are pervasively uninsured. Indeed, two-thirds of all uninsured Americans are poor or near-poor:

- One in every seven American women of childbearing age is uninsured.[27] Thirty-six percent of women of childbearing age with annual family incomes below federal poverty levels have no health insurance.[28] Among the nation's very poorest women of childbearing age -- those with family incomes of less than $5000 -- thirty-nine percent are uninsured.[29]
- Poor children are over-represented among America's uninsured. While children comprise only 17.5% of the U.S. population under age 65, they make up 36% of America's 35 million uninsured persons under age 65.[30]
- In 1984, two-thirds of all poor children lived in families in which at least one family member was in the work force for all or part of the year.[31] Yet only 16% of poor children are privately insured for a full year, and only 33% have any private health insurance at all.[32] Thus, unlike adult Americans, there exists little relationship between the employment status of a poor child's parents and that child's private health insurance status.[33]
- Medicaid is the nation's largest public health program for low-income children and pregnant women. Yet in 1984, the average state Medicaid eligibility level for a family of four with no other income was $319.00 per month -- 38% of the federal poverty level.[34] Moreover, eighteen states still do not provide Medicaid to pregnant women in two-parent working families, no matter how poor they are.[35]

Furthermore, there exists extensive evidence that the poor uninsured use substantially less medical care than their insured counterparts.

- Studies comparing the use of hospital and outpatient medical care among individuals in fair to poor health found that the uninsured sick received 50 percent less hospital care and 75 percent less ambulatory nonphysician services.[36]
- In its 1982 study of Americans' access to health care, the Robert Wood Johnson Foundation found that one million families were refused care when they sought it because they were unable to pay for it. The study also found that the poor were almost twice as likely as the non-poor to be unable to obtain any care.[37]
- A federal study examining the health status and health care utilization patterns of uninsured widows and children receiving Social Survivors' benefits found that while children in these families were twice as likely to be sick than those in the general population.[38]
- Researchers at the National Center for Health Statistics found that, adjusting for health status, the poor received substantially fewer services than the non-poor. Disparities in the use of important preventive services were particularly striking: low-income women were less likely to receive prenatal care, Pap smears, and breast exams, and young low-income children were less likely to be immunized.[39]

Because private insurance coverage of poor children is so inadequate and the public insurance "safety net" for children is so tattered, access by pregnant women and infants to comprehensive prenatal and pediatric care (including both medical care, nutritional supplements, and health education) is seriously threatened. As cutbacks and cost containment efforts among both public and private insurers have increased in the past several years, access to necessary outpatient and inpatient care has become increasingly threatened.

- The health needs of the uninsured are putting a heavy cost burden on hospitals: according to information collected by the National Center for Health Statistics as part of its annual National Hospital Discharge Survey, about a half million women who delivered babies in hospitals in 1983 were uninsured.[40]

- It has been estimated that 40 percent of all hospital care for uninsured patients involves obstetrical cases, and that this care adds up to over $1.5 billion per year in hospital charges.[41]

- The number of uninsured obstetric and pediatric cases is so high that according to a recent staistical profile of the source and distribution of uncompensated care in American public hospitals, one out of every two white newborn females will be uninsured. In western hospitals, two out of three white newborn female infants wil be uninsured.[42]

Even more ominous is the fact that certain uninsured newborn infants are among the most expensive charity care cases that a hospital can treat, thereby increasing the pressure on hospitals to stop providing services to these babies. At one hospital, for example, high risk newborn infants represented only one percent of all uninsured patients but nearly 20 percent of the facility's uncompensated care charges.[43] An average hospital bill for a high-risk newborn in Georgia exceeds $11,000, and yet high-risk babies are more likely to be born to women who, because of poverty, lack health insurance and are the least able to afford the cost of care.[44] It is the very poorest and least insured babies who are in the greatest need of care and who ultimately may be the least able to get it.

Given the pressures for cost containment and the large costs associated with caring for medically indigent women and children, there exists a real danger that hospitals will begin to reduce the amount of indigent care they furnish. There are already warning signs of this trend. Between 1981 and 1982, 15 percent of hospitals serving large numbers of poor patients adopted specific limits on the amount of charitable care they would provide.[45] Some hospitals, apparently in response to the high costs involved and the large numbers of children who cannot meet them, have cut back on the newborn intensive care services they will provide to *any* children.[46] These trends indicate that the cost of caring for uninsured children can indirectly constrict the availability of services for all children.

Moreover, a study recently conducted by the American Academy of Pediatrics reveals a substantial increase in the number of patient referrals by hospitals to other hospitals for economic reasons.[47] Of one hundred and eleven hospitals responding to the Academy's nationwide survey, twenty-six percent reported an increased number of referrrals to other institutions. Of these half gave low or exhausted Medicaid payments as the reason, while two identified a total lack of insurance as the reason for the transfer.[48]

Reductions in specialized hospital care for women and children are dangerous for even deeper reasons. Between 1965 and 1979, infant mortality rates declined by more than 40 percent in the United States. These dramatic declines were not the result of more preventive health care and the birth of healthier babies, but instead resulted from the development of very specialized intensive infant care hospital services that now permit us to keep babies alive who would certainly have died twenty years ago.[49] While the number of babies in need of such care is not declining, these special services are in danger of shrinking, and the number of babies whose families cannot afford to pay for them is growing.

III. Access to Health Services and Health Care Status of Poor Minnesota Pregnant Women and Children

Minnesota has an excellent health care system, and we have healthy people as well -- Minnesotans live longer than anyone else in the forty-nine continental states.[48a] We have research specialists at the Mayo clinic and University of Minnesota, fine public and private clinics and hospitals, and no shortage of providers even in our rural areas. We are a leader in the restructuring and refinancing of health care to achieve cost containment. In the Twin Cities metro area, where half the state's population lives, between thirty-five and forty percent of the people are enrolled in health mantenance organizations CHMOI compared with twelve and fifteen percent of the insured in such plans nationally.[48b]

Yet despite these impressive statistics, Minnesota's poor and near-poor mothers and children face serious health problems.

- Infant mortality actually rose in Minnesota from 9.4 deaths per 1000 live births in 1982 to 9.8 in 1983.[48c] This rise may reflect the recession of 1982 which hit Minnesota harder than economic setback since the depression.
- The disparity between Black and white infant mortality rates is greater in Minnesota than for the nation as a whole. While the national Black infant mortality rate is slightly less than twice the white rate, in Minnesota it is more than twice as bad -- 22.7 deaths per 1000 live births among Black infants versus 9.8 deaths per 1000 for white babies. Moreover Black infant mortality rates in Minnesota are above the national average.[48d]
- A high percentage of Minnesota's pregnant women receive little or no pernatal care. In 1983, twenty-two percent of all pregnant women failed to begin care until their second or third trimester or not at all, and the prenatal history of another eight percent are unknown.[48e] As many as one-third of our pregnant women may not be getting critical first trimester prenatal care.

This fall, the Children's Defense Fund's Minnesota Project went out to the urban neighborhoods and rural communities of the state to hear from hands-on providers and families and to learn about families' access to health care. We asked about unmet needs and what should be done. This is what we learned:

- Minnesotans are pround and have a strong tradition of taking care of themselves. We are used to going without rather than asking for help. Yet our iron range decline, the rapidly changing economy, and our farm problems have removed many families' usual access to health care.

We learned about Jim, his wife Laura, and their children. Jim was laid off from the iron mine in 1982. He paid for the family's insurance out of his unemployment check as long as he could, but that finally ended. Laura got pregnant in late 1983 -- they also have a 14 year old. Luckily, a Minnesota foundation had given the local hospital a grant that paid for their daughter, Karen's, delivery, but that grant is gone now. The financial pressures on Jim and Laura are great. They need counseling but have stopped going because the bills (which began coming when the local mental health center had federal funding cut while caseloads skyrocketed) cause more fights. Karen, now 16 months old, has a limp. She needs to be evaluated for an orthopedic problem and Jim thinks she will need surgery, but they have not taken her to a physician because they do not have the money.

Recently Jim has found a new job. He works 12 hours a day and makes $900 a month, but the job provides no health insurance for the family. His wife blames him for not being an adequate breadwinner because they do not have medical coverage. His final statement at our hearing was, "I haven't seen a dentist in two-and-a-half years. All that good prevention that was done when I had the HMO is down the drain."

- Pregnant women and children are going without needed care

- Pregnant women are going without prenatal care because they simply do not have the money. The public health nurse in one county just learned of a family in which the wife is seven-and-a-half months pregnant. She has never seen a doctor and plans to have the baby at home because they have no money to pay.

- Last year a young woman in Southern Minnesota, working full time at a minimum wage job, found herself pregnant, had no health insurance and no prenatal care. Her baby came early and subsequently died.

- In some communities, doctors are requiring cash payment from any family who has an outstanding bill. We heard of cash required from both pregnant women and parents of of sick children. A public health nurse in a suburban county could not get any doctor in that county to see a sick child whose mother had no cash. The closest access point was 40 miles away in inner-city St. Paul.

- Five-year-olds coming in for school-entry immunizations have not seen a doctor since they were six months old. Only sick emergencies get presented to the doctor. School nurses treat hearing problems because families have no money to take a child with an earache to the doctor.

- Two state-funded screening programs cannot fulfill their legislative purposes because they are unable to ensure treatment for conditions detected by screening. Many families have no way to pay for the treatment.

- In northwestern Minnesota, untreated dental problems in children have gotten so bad that one child has actually required hospitalization. Yet one little boy had to wait three months to be admitted because the family had no form of payment until the father was laid off in the fall and became Medicaid-eligible.

Many families are uninsured

- The families of seasonal workers (resort, timber, agricultural, and so forth) have coverage pehaps three months a year.

- Farm families are often uninsured or have very high deductibles. Among three farmers around a table a few weeks ago, two carried a $2,500 per person deductible, and the other had a $1,000 deductible. Given the fact that many farm families have no cash income, not even enough for basic food, anything but medical emergencies goes by the wayside.

- Part time and minimum wage workers have a very poor chance of getting insurance even for themselves, and dependent coverage in those situations is almost unheard of.

- Self-employed workers and people who own or work in small businesses are often uninsured. The small businesses in the farm communities are hurting along with everyone else, and self-employment rates are also high in rural Minnesota.

- Minnesota's insurance data confirm this testimony

- Fifteen percent of women 16 to 18 years old, and seventeen percent of 19 to 25 year old women have no health insurance of any kind.[48f]

- Three fourths of all uninsured adults in Minnesota work. Half of them work full time.[48g]

- There are 100,000 children in Minnesota with no health insurance.[48h]

- Two-thirds of uninsured children live in families where no one has insurance.[48i]

- Forty-one percent of Minnesotans with incomes under $15,000 have no health insurance, not even Medicaid.[48j]

- A recent survey of the working poor in Minnesota found that female single parents have very little medical coverage through work. Only twenty-eight percent had such coverage, compared to sixty-seven percent of the Minnesota labor force.[48k]

- Occupations among the working poor where women are concentrated have lower rates of job-related insurance than for the working poor as a whole. Coverage rates are only twenty-two percent for Sales, and twenty-four percent for Service, compared to forty percent for the working poor as a whole.[48l]

- Unmet needs extend beyond traditional medical services

- Mary had to walk three miles each way to obtain prenatal care. She went into premature labor four different times on the way in and had to be hospitalized each time in order to stop labor.

- Some families lack money for proper food

- The doctor pointed out to newly pregnant Ann Olson that she was seriously short on foods from the fruits and vegetables groups, and asked why. After a long pause, Ann looked up, tears rolling down her face, and said that she and her husband had two other children to feed and almost no money. The doctor, shaken, said she understood and told her "you do what you have to do."

- *The Minnesota Medicaid program, at its current levels, is not the answer*.

- Because Medicaid financial eligibility levels are so low, a single pregnant woman must quit a minimum wage job to become eligible. The young woman we mentioned before who lost her baby had sought Medicaid for prenatal care but didn't want to quit her job, the key to the future for herself and her baby, just to get prenatal care. Person after person testified to the false economy of forcing people into welfare dependency, just to get basic medical care.

- A pregnant women in a battered women's shelter who discovered she was ineligible for Medicaid went back to her abusing husband to ensure medical care for her unborn child and her other children. The unborn baby was subsequently injured *in vitro* by continued battering.

- Self-employed people such as farmers, truckers, and loggers, are ineligible for Medicaid because they have some small equity in the tools of their trade. In order to get prenatal care and medical care for their children when times are tough, they would have to sell off their tools -- their very means of being self-supporting contributing citizens.

- More and more providers are refusing to take Medicaid. Until recently, this has not been a problem in Minnesota, but we heard of both doctors and dentists who have dropped out of the program. A mother in northern Minnesota finally found a dentist 100 miles away, only to be told when she brought her child in for the appointment, "There must have been some mistake on the phone -- we don't take Medicaid."

- There is negative marketing of welfare programs. In Minnesota, as in the rest of the country, we have two messages about welfare programs: On one hand we tell people that we want to help. On the other, we say that it is a bad, shameful thing to get welfare. It is a very unpleasant experience in many parts of Minnesota to go through the welfare system. What small measure of self-esteem people have left after numerous economic reversals often keeps them from applying, and the process itself often robs people of their last bit of integrity. One woman cried as she told us she couldn't get an appointment for a month to seek help for herself and her three children until she told them she was about to kill herself.

The current delivery system needs rethinking:

Some special populations need culturally sensitive, easily accessible providers or they will not benefit from care.

- o An Indian clinic was unable to join an HMO even though all the financial arrangements had been worked out. The clinic could only conclude it was because the HMO did not want Indians in their waiting rooms.
- o Hmong immigrants are afraid of American medical equipment and have a strong taboo against including men in pregnancy and child birth. They need specially designed services.
- o The zeal to save money can backfire. An HMO refused to admit a diarrheal child to the hospital. When the doctor forced the issue on the fourth try, and the public health nurse went to the home to provide transportation, it was discovered that the family did not know how to wash the baby bottles properly. This would not have been picked up in an outpatient clinic setting.

Most of Minnesota's delivery system, particularly HMOs, was initially designed for middle class, employed, white families. Poor and minority children are, by and large, not in the mainstream system. We believe that cost-effective health care arrangements such as HMOs can work for the poor, but it will take some effort to make them work right.

- o The health care access problem in Minnesota has real cost consequences

The Council of Community Hospitals, a group of hospitals in the Twin Cities, reports that:

- o Charity care and bad debt increased forty-eight percent between 1980 and 1983. This burden is unevenly distributed, ranging from .4 percent of one hospital's revenues to 9.2 percent of another hospital's revenues.[48m]

- forth-three percent of charity patients are in the pregnancy, childbirth, and newborn medical diagnosis categories. Compared to both regular insurance and Medicaid coverage, both charity and self-pay patients had higher percentages of childbirth and newborn cases involving medical complications.[48n]

The Council concludes: "As price competition intensifies, there is no incentive for hospitals to raise prices and thereby lose private paying patients.....without some public or private policy response, this population will encounter restricted access to care."

"Mechanisms to equitably finance uncompensated care are necessary to safeguard access for the uninsured poor and near-poor in a competitive market."[48o]

Concern about spiralling neonatal intensive care costs has been raised by the Minnesota Coalition on Health Care Costs. Between 1975 and 1982, neonatal intensive care patient days increased 105 percent, and the average length of stay increased by 159 percent in the Twin Cities alone.[48p] With $1250 a day being an average NICU charge, we are approaching $50 million a year in neonatal costs in the Twin Cities alone.[48q] Recognizing that prenatal care reduces the incidence of low birthweight, and that fewer small babies mean less neonatal intensive care, this Minnesota group has recommended that, through both changes in third party coverage and government action, Minnesota make comprehensive prenatal care available to _all_ pregnant women.

IV. The Cost to the Nation of Failing to Care for Poor Pregnant Women and Infants is High

Among western industrialized nations, America stands nearly alone in its failure to ensure that comprehensive medical care is available for all pregnant women and babies who need it. Instead we have developed a health care financing system in which: (1) a family's access to health services depends upon having health insurance; and (2) there exists no basic, residual public or private program for financing health care for all families not insured through the workplace. There is simply no program equivalent to Medicare for financing health services for younger, uninsured families. Instead, we maintain a "safety net" consisting of a patchwork of highly inadequate categorical programs through which millions of children and pregnant women slip annually.

This inadequate approach to financing maternal and child health takes a heavy toll. Families dependent on this volatile, piecemeal public health system are bounced among a series of incomplete and fragmented programs. They are unable to get the early and continuous medical care they need to ensure healthier birth and child outcomes. Moreover, because they are not connected to a comprehensive health care system, they do not receive the type of patient education and counselling needed to promote sound personal health practices. Finally, as we noted above, many providers will actually refuse to treat poor families because the financing mechanisms are not as attractive as private payment systems.

The cost of infant mortality and handicaps can be measured in both lives and dollars:

- The Institute of Medicine, in its landmark study Preventing Low Birthweight, found that every dollar spent to provide comprehensive prenatal care could save $3.38 in the first year of an infant's life alone.[50]

- The California Department of Consumer Affairs found major savings among women served over a 5-year period in a perinatal care project, as compared to women who did not receive such care. The net 5-year perinatal program costs for 1000 women totaled $750,000. For 1000 women who did not receive such care, costs were $4.6 million. The basis for the cost reduction included: increased birth weight among babies born to project patients; reduced prematurity; reduced costs for child protective services; reduced costs for special education and similar services; and reduced costs for emergency room and hospital care.[51]

- A study of the effects of reductions in maternity care for poor women served by San Diego, California's, large public hospital found that reductions in publicly-funded prenatal care programs between 1981 and 1982 led to a forty percent increase in the number of pregnant women delivering babies with no prenatal care. Researchers examining the effects of this reduction in prenatal care found that babies born to mothers who had received no care were:

  - over six times more likely to be born prematurely;
  - over three times more likely to be low birthweight;
  - four times as likely to measure low Apgar scores at birth; and
  - two-and-a-half times more likely to require intensive care.

Additionally, total average costs for babies whose mothers had received no prenatal care were $5168 per pair, as compared to $2974 per pair (which included $600 spent for prenatal care) among babies whose mothers had received comprehensive prenatal care. The annual excess cost incurred by the hospital in delivering 400 additional babies whose mothers had received no care was $877,600.[52]

- Michigan state officials examing 9,725 infants born at low birthweight and 6000 babies receiving care in newborn intensive care units estimated that with good prenatal care, a minimum of twenty-five percent would not have required such services. State officials then determined that, while the cost of providing prenatal care to all the state's uninsured pregnant women was $4.9 million, the cost of providing neonatal intensive care to the 1500 infants was $30 million. Thus every dollar spent by the state on prenatal care would save six dollars.[53]

- A study of infants born to women who delivered their babies at a large public hospital in Dallas, Texas, found that babies born to women who had received no prenatal care:

  - were three times more likely to be low birthweight
  - were over three times more likely to die in the first month of life
  - were over 1.5 times more likely to require neonatal intensive care and, because they were sicker, averaged NICU stays that were nearly twice as long as those among babies whose mothers had received prenatal care. While thirty-eight percent of surviving infants studied were delivered to women who had received no prenatal care, they used sixty-four percent of the total intensive care days.

The greater number of birth complications among babies born to women who had received no care was attributed to the fact that serious illnesses among poor pregnant women that are detectable and treatable through good maternity care, especially hypertension, were not identified for the mothers of these babies. As a result, while women without prenatal care comprised only sixteen percent of the study population, the cost of caring for them and their infants was as great as the cost of careing for the other eighty-four percent of the study group.[54]

V. Recommendations Regarding The Design and Mission of the National Commission

We applaud the sponsors fo S.1209 for focusing the attention of Congress on the issue of infant health. However, because so much is known about the causes of infant mortality and morbidity and the services that are needed to improve the health of America's children, we strongly recommend that, if the Commission is formed, it concern itself exclusively with developing approaches to extending comprehensive maternity and infant care services, including outreach, medical, health, and nutrition services, and patient education, to the millions of families who cannot afford care.

The Commission will have available to it a wealth of information about the causes of infant mortality. These include: studies specially prepared for Congress, such as Better Health for our Children and other reports and hearings; specialized studies and reports prepared over the past decade by the United States Department of Health and Human Services; studies conducted by state governments; and studies by independent organizations such as the Institute of Medicine. In addition, there exist numerous analyses of the effectiveness of public health interventions established to date, including Medicaid, WIC, Community and Migrant Health Centers, and the Title V Maternal and Child Health Block Grant. Moreover, there exists a growing body of literature regarding the relationship between poverty and child health status.

The central issue the Commission should address concerns fashioning appropriate remedies. What reforms are needed within both the public and private health financing sectors to ensure that all pregnant women and infants are able to purchase necessary medical care? What should be the minimum content requirements for any publicly or privately financed maternity care program? How can the nation finance and enforce these reforms? How can we deal with problems relating to the supply and distribution of medical and health personnel? In other words, how do we as a nation get to where we know we should be going?

We believe, furthermore, that we *cannot afford* to simply wait for longterm solutions to these ever-present questions. Today as we meet, 15 Black infants will die simply because the Black infant mortality rate is twice that for white infants. Today state and federal Medicaid expenditures for neonatal intensive care services *alone* will total about $1.5 million -- enough to provide comprehensive maternity care to 600 uninsured pregnant women. There is much that we know how to do *now*. While must devise longterm solutions, there exist many shortterm steps that we cannot afford *not* to take. We have identified many of these actions in our Children's Survival Bill. More immediately, we urge your support for a number of key maternal and child health improvements included in the House and Senate Medicare and Medicaid reconciliation legislation.

These improvements include amendments to broaden the scope of services which state Medicaid programs can provide to pregnant women; inclusion of pregnant women from two-parent working poor families in the Medicaid plans of the 18 states that do not now cover these families; extension of the AFDC-Unemployed Parent program for qualified families in all states; and the provision of new funds for adolescent pregnancy services.

This year the nation will spend over a half billion dollars through the Medicaid program just to pay for hospital care for high-risk newborns. By providing comprehensive prenatal care to all pregnant women, we could, according to the Institute of Medicine, cut that expenditure by two-thirds. In this period of economic crisis, this is simply too sound an investment to delay any longer.

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PREPARED STATEMENT OF RICHARD E. SMITH, M.D.

MARCH OF DIMES BIRTH DEFECTS FOUNDATION

Testimony in Support of

National Commission to Prevent Infant Mortality Bill (S.1209)

Mr. Chairman and members of the committee, I am Dr. Richard E. Smith. I am an obstetrician and director of the Young Adult Clinic at Henry Ford Hospital in Detroit. I am a member of the March of Dimes Community Services Advisory committee as well. The March of Dimes has been dedicated to the prevention of birth defects for more than a quarter century.

Thank you for the opportunity to present the views of the March of Dimes on S. 1209, which would establish a National Commission to Prevent Infant Mortality. Since low birthweight is the most common birth defect and it causes the greatest number of deaths under one year of age, the March of Dimes believes that this bipartisan legislative initiative will go a long way toward the development of a national policy aimed at reducing infant mortality. We applaud the bill's sponsors, Senator Lawton Chiles and Senator Lloyd Bentsen, for their leadership in this area, and we congratulate you for calling this hearing today to look at the causes of infant mortality and the programs aimed at lowering the occurrence of infant mortality.

Infant mortality is a serious problem in the United States. Out of every 1,000 infants born in this country, 11.2 never live to see their first birthday. In some sections of the country, particularly in the South, the rate is twice as high.

My home state of Michigan is one of the few Northern states with an infant death rate above the national average. In Michigan, the infant mortality rate is almost 12 per 1000. The black infant death rate remains over 23 per 1000. In parts of Detroit, it has been as high as 33 per 1,000--triple the national average.

Infant mortality in the United States is not a new problem. To help tackle the problem, the March of Dimes has played a leading role in organizing medical care for high-risk mothers and babies through regional intensive care nurseries; in providing equipment and staff training to put the centers into operation; and in setting up communication and transportation systems to link small communities to the major facilities.

This approach has widened the availability of specialized perinatal care, which during the past decade has proven its value for dramatically reducing infant deaths and preventing brain damage or other lifelong handicaps among survivors. Regional organization, spearheaded by the March of Dimes, has also helped to control costs by eliminating duplication of expensive technology and personnel.

The success of neonatal intensive care can be measured by more than a 50% improvement in the national infant mortality rate between 1965 and 1983. Indeed, since 1970, when regionalized care became a priority, 90 percent of the reduction in infant mortality has been among newborn babies.

Now, babies born in the United States have an excellent chance of survival, even if they are born seriously ill. But, during the same time period as the 50% fall in infant mortality, the U.S. slipped further in international rankings of infant mortality statistics. Seventeen other countries are currently more successful at avoiding infant deaths. Why? Unfortunately, while our ability to save the tiniest and sickest infants has increased, the incidence of vulnerable low birthweight babies has remained relatively constant for the past thirty years.

The subject of low birthweight babies in the U.S. has received a great deal of publicity recently. The publicity has been caused, in part, by a report issued this past February, by the Institute of Medicine (IOM), a part of the National Academy of Sciences. The report, entitled Preventing Low Birthweight, summarizes the findings of an interdisciplinary committee established to study prevention of low birthweight. The March of Dimes is proud to have been able to be a partial funder of the committee and the dissemination of its findings.

The IOM panel concluded that the prevention of low birthweight could contribute significantly to a reduction in infant mortality in the United States and, more generally, to improved child health. Some of the report's finding are highlighted in the following data:

** Of the 3.6 million infants born each year, nearly 7 percent, or 250,000, are born weighing less than five and one-half pounds;

** Low birthweight is a leading factor in infant mortality. It is the greatest cause of death in the first year of life. A low birthweight infant is forty times more likely to die in the first month of life than is a larger infant;

** Low birthweight infants who survive are twice as likely to suffer one or more handicaps, including deafness, blindness, learning disabilities, cerebral palsy, epilepsy, chronic lung problems, and mental retardation. The cost to care for these children is enormous. The National Institute of Child Health and Human Development estimates that just the direct costs for neonatal intensive care of these infants exceeds $2 billion annually. Long-term costs are hard to estimate, but a study cited by the IOM estimated that the cost of institutional care for developmentally disabled children is $359,124 per child.

The IOM believes that "Preventing LBW is an approach considerably less costly, both socially and economically, than additional investment in neonatal intensive care."[1] The MOD strongly supports this recommendation.

How can we prevent low birthweight, and thus lower the infant mortality rate in the U.S.? After analyzing numerous studies, the IOM concluded that "the overwhelming weight of the evidence is that prenatal care reduces low birthweight. This finding is strong enough to support a broad national commitment to ensuring that all pregnant women, especially those at medical or socioeconomic risk, receive high-quality care."[2]

The South has demonstrated its commitment to prevention by the formation of the Southern Regional Task Force on Infant Mortality, initially funded in part by the March of Dimes. And, in the South, the data on the value of prenatal care is striking. For example, when South Carolina's Commissioner of Health and Environmental Control, pediatrician Robert S. Jackson, reviewed birth and death records for his state, he found that the first-year mortality rate was 12 per 1000 if the mother had received five or more prenatal visits. Among mothers who had received fewer than five prenatal visits, the infant death rate was nearly six times as high--68 out of every 1,000 babies.[3] Commissioner Jackson concluded that access to prenatal care was a major public health issue in his state.

Quality prenatal care visits make possible the detection and treatment of high risk medical and obstetrical complications, such as early detection of pre-term labor and the prompt treatment of maternal infections. Quality prenatal care visits also make possible the introduction and reinforcement of educational messages which will guide the woman in protecting her health and that of her baby.

The IOM committee "believes that little will be accomplished by further efforts to document the value of prenatal care generally. Instead, more studies should be undertaken to determine the effectiveness of different approaches to delivering prenatal care and of different, flexible packages of care."[4]

The March of Dimes believes that the bipartisan National Commission to Prevent Infant Mortality, which would be established under S. 1209, is an ideal group to conduct this vital next step--to recommend strategies for more consistent perinatal health policy and greater access to health care services. It will focus nationwide attention on the infant mortality issue and will coordinate the excellent work done by groups such as the IOM and the Southern Regional Task Force.

The commission will examine federal, state, local and private resources to determine the barriers to health care and to recommend to Congress a national policy to eliminate them. When the commission's report is completed, the March of Dimes stands ready to do its part in a concerted national effort to reduce infant mortality. Again, on behalf of the March of Dimes, I want to thank you for holding hearings on S. 1209. At issue is our nation's commitment to the well-being of future generations. That is why the March of Dimes supports S. 1209 and urges you to do all you can to ensure the passage of this most important piece of legislation.

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Dr. Smith's Responses to Written Questions

Question 1. How many of today's physically and mentally disabled children could have had healthy lives had we provided better prenatal services?

Answer. There were 3,638,933 total births in 1963. Of these births 247,668 (6.8%) were of low birthweight. 43, 161 of these LBW infants weighed under 1,500 grams.[1]

If increased access to and utilization of prenatal care by all pregnant women enables the U.S. to achieve the Surgeon General's 1990 goal of a 5% LBW rate, this would mean a reduction of almost 66,000 in the number of babies born at risk due to low brithweight.

Estimating that at least 30% of infants born weighing 1,000 grams or less, 20% of those weighing between 1,001 and 1,500 grams and 10% of those between 1,501 and 2,500 grams would have permanent problems such as cerebral palsy, mentl retardation, and learning problems, a reduction of 66,000 LBW infants would mean approximately 8,300 fewer infants born each year with these disabilities.[2]

In addition, adequate PNC will reduce the number of babies born each year affected by the following conditions:

[Approximate number affected each year]

Condition	
(1) Conjunctivitis and pneumonia as a result of chlamydial infection [1,2]	100,000
(2) Intra-uterine growth retardation [3,4,5]	50,000
(3) Rh hemolytic disease [6]	6,000
(4) Fetal alcohol syndrome [7]	5,000
(5) Congenital toxoplasmosis [8]	3,000
(6) Congenital syphilis [9]	240
(7) Congenital rubella syndrome [9]	20

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Question 2. What ought to be the objectives of the National Commission to look at the needs of the physicially and mentally handicapped newborns in addition to infant mortality?

Answer. Following are issues and problems which should be addressed by the National Commission on Infant Mortality.

Prenatal care

Financial barriers to care.
Availability of clinics and health care personnel.
Accessibility of care.
Attitudes and understanding on the part of patients.
Comprehensiveness of content of care.
Utilization of regional systems for contribution, referral and transport.

Neonatal care

Utilization of regional systems for consultation, referral and transport.
Limitations on reimbursement and length of stay imposed by new policies (DRG's).
Continuing education for providers in early recognition of abnormalities.

Postnatal care

Services in the home and in clinics for high risk infants.
Comprehensiveness of content of "well child" services.

Interconceptional care

Availability and utilization of family planning services.

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STATEMENT OF
JEFFREY R. TAYLOR, PHD
NATIONAL ASSOCIATION OF PUBLIC HEALTH POLICY

IN SUPPORT OF

S. 1209 - A NATIONAL COMMISSION TO PREVENT INFANT MORTALITY
WASHINGTON, D.C. -- OCTOBER 31, 1985

Mr. Chairman, Members of the Subcommitte, and Associates: On behalf of the National Association of Public Health Policy I would like to thank you for the opportunity to testify in support of S. 1209, a bill to establish a National Commission to Prevent Infant Mortality.

I have here two apparently dissimilar national publications; the Ladies Home Journal (1) and the Scientific American (2). Although these two magazines attract widely differing audiences, both have asked the same question, "Why are thousands of infants perishing needlessly in the world's richest nation?"

One magazine traces the problem in a highly personal way, focusing on the tragedy of infant death as it affects families and communities across the land. The other examines statistics, trends and issues of debate in the scientific and medical community. But as many of the panelists have so eloquently done today, both of these magazines offer excellent and constructive suggestions for improving each newborn's chances of living to their first birthday.

NEED

Why is a National Commission needed?

Its purpose would be to review the effectiveness of current federal, state and local governmental policies and programs in reducing our unacceptably high levels of infant mortality. Also the Commission would examine contributing individual attitudes and lifestyles and enumerate solutions.

As a state health official from Michigan, I know firsthand the tragedy of high infant mortality. Our state was once average in terms of infant deaths. Now we rank 12th worst among the fifty states. We also have the sad distinction of having higher black infant death rates than any other state.

Dr. James Mason, Acting Assistant Secretary of Health characterized the situation for Michigan nonwhites as,

> a particular concern (with) significantly slower rates of decline than the U.S. for 1968 -1977 followed by essentially no change for 1980 - 1982 (3).

As we found in Michigan, a good general understanding of the infant mortality problem by all elements of society is needed to generate and carry out needed reforms. Scientific expertise and public understanding can together create the consensus needed to support broad bipartisan solutions. The Commission provides a forum for this process.

AREAS OF INVESTIGATION

The work of the Commission would not be "just another study." Existing reports, documents and investigations would be pulled together into a complete picture for policy makers and the public.

What reports and studies are available?

We have heard an account of one such excellent report today from the foremost scientific group in our country, the National Academy of Sciences. They offered the reduction of low birthweight (less than 5.5 pounds) as a promising approach to reducing the unique problems faced by the United States (4). Many barriers were identified in the report, but many constructive solutions were also proposed for adoption by government, private entities and individuals.

One area of particular importance cited by the Academy was the role of prenatal care in improving birthweight and reducing infant deaths. Our own Association has also offered strong support for expanding access to comprehensive maternity care (5).

A recent survey by the Massachusetts Department of Public Health indicated that increased availability, accessibility and content of prenatal care was a major part of ten states' approach to improved pregnancy outcome (6).

Michigan adopted a gap-filling approach to financing prenatal care for low-income and uninsured women who could not qualify for Medicaid (7). Other income groups may receive assistance in identifying a source of maternity care. No financial assistance is offered to those above the WIC nutrition program eligiblity ceilings (185% of the USDA poverty level). After a two year trial period, Michigan may decide to declare prenatal care a "basic health service" which means assistance for all in obtaining care, but financial support only for the needy qualifying under state guidelines.

The Southern Governor's Regional Task Force on Infant Mortality has proposed new or modified state approaches in designing comprehensive programs for teenagers, indigents and others in areas such as child safety, crib death, environmental health and maternity care (8). These efforts focus on state and federal resources such as Medicaid, the Maternal and Child Health Block Grants and the WIC Supplemental Nutrition program. Areas of intergovernmental cooperation have been identified and await national scrutiny and consensus.

Other reports have focused on "The Unfulfilled Promise of Federal Health Programs For the Poor (9). Vast Federal expenditures in Medicaid, Hill-Burton, Title V - Maternal and Child Health, Community Health Centers, Family Planning, Suplemental Foods and others do not seem to be yielding acceptable infant death rates for the U.S. Are these programs poorly designed to meet this goal or are they poorly managed, under-financed or working at cross-purposes?

Should the Medicaid program be restructured as another recent study has suggested (10)? Would separately funded and managed Medicaid programs for primary care versus continuing care assist in securing the preventive health strategies needed to improve birthweight?

Yet another study of the federal "Improved Pregnancy Outcome Project" holds forth hope for impressive reductions of infant mortality (11). Since this program is no longer in existence, should consideration be given to reviving it in some form?

Clearly, several fruitful avenues of investigation are available. With hard work by the Commissioners and staff, reasonable courses of constructive action should become apparent.

POTENTIAL ACCOMPLISHMENTS

The National Commission's report will clarify the issues, educate the country and its leaders and give us concrete recommendations for action within one year of enactment for:

- A National policy for preventing infant mortality and a description of intergovernmental and private actions for carrying out that policy.

- Legislative and program changes needed to achieve an effective Federal role in preventing infant mortality.

Our situation could be greatly improved by a coordinated national policy initiative and by actions such as those offered in Michigan's previous Congressional testimony (12). Other useful proposals surfaced in a meeting of national experts and recorded in a report entitled, Intergovernmental Options for Reducing Infant Mortality (13).

What might some of these accomplishments be?

Federal policy should call for closing the black-white low birthweight and resultant infant mortality gap. Each of our children should begin the race of life on equal terms.

To achieve this goal, standards of preventive health care should be revised and implemented in all federally financed health care programs, including Medicaid. Where state and local revenues fall short, federal financing should be made avalable to carry out programs meeting the national standards. There must, however, be maximum state and local flexibility in administration. New programs should be targeted at the needy and fill gaps in existing services. Federal eligibilty standards should be consistent across preventive health programs and reporting mechanisms integrated. "Sentinel" reporting systems should be established.

The federal structure should provide prompt technical assistance to the states and fund innovative demonstrations and evaluations which could assist the states and localities to improve services. For example, a national survey of the unmet need for prenatal care would be of benefit to local areas. Fortunately, this is being partially funded by a DHHS grant. Ten states will be studied, including New York and California.

At the state level, planning on priority health problems related to that particular area's infant mortality problem should go forward. It should include a broad spectrum of involved health care agencies, public officials and the public. A lead agency for infant mortality reduction should be appointed.

The local level should be the final "guarantor" of care, assuring needed services for women and children.

Our Nation's history is rich with success stories of similar national initiatives. In the 1920's concern was focused on maternal deaths. Maternal death rates had failed to decline over a period of many years, stalling at unacceptably high levels. Extensive national studies were done and recommendations to the medical profession, government and the general public were adopted. These policies prepared the way for great improvements in maternity care, including a reduction in maternal deaths that followed in the next few years (14).

The National Association of Public Health Policy is pleased to offer strong support for S. 1209 in its present form. Its passage will offer hope to the parents of many newborn Americans. Its solutions, if put into practice, will assure our future nation a healthy labor force, able to compete in an era of rapid technological change.

Mr. Chairman, I will be happy to answer questions at the proper time. Thank you.

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QUESTIONS FOR JEFFREY R. TAYLOR, PH.D.
NATIONAL ASSOCIATION FOR PUBLIC HEALTH POLICY

AS A STATE ADMINISTRATOR, WHAT DO YOU SEE AS THE FEDERAL, STATE AND LOCAL RESPONSIBILITIES IN THE AREA OF MATERNAL AND CHILD HEALTH?

Federal Level

The Federal Government has many important responsibilities to carry out in order to assure the health of the next generation of Americans. These include the establishing of health goals and obtaining a national consensus on these goals, setting standards of health care, financing, demonstrating new and effective interventions, monitoring conditions affecting children and training.

Setting National Health Goals. It is essential that the United States set and the American people achieve a consensus on health goals for children. Establishing national health goals has been the driving force behind the many White House conferences on children which have been held in the United States going back into the early 1900's. Perhaps the most recent expression of these goals occurred during the mid-1970's with the beginning of the Healthy People campaign and the publication of the landmark book by the U.S. Department of Health and Human Services entitled, Promoting Health and Preventing Disease: Objectives for the Nation.

While this publication set health objectives for all age groups, it concentrated especially on preventive health services, health protection activities and health promotion. Maternal and child health goals played a principal role because of their known and proven preventive aspect. Thus, objectives were set in the area of family planning, pregnancy and infant health, including infant mortality, low birth weight, prenatal care and similar areas.

The most important result of goal setting is to give professionals and citizens alike the opportunity to focus time, energy and attention on achieving these goals. This is the same principle that was used in the space program when the goal was set by President Kennedy of putting a man on the moon and returning him safely prior to the end of the 1960's. In the area of infant mortality, the Surgeon General set the goal of reducing infant mortality to no more than nine deaths per 1,000 for the population as a whole and to not greater than 12 deaths per 1,000 for any racial, ethnic or geographic group. Goal setting energizes the system and sets the pattern for expenditure of resources.

Standards of Health Care. A longstanding contribution of maternal and child health and crippled children services in the United States has been the ability to articulate health care standards which are consistent with published professional standards and also practical for implementation in the community setting. Such standards have led to the improvement of health care for all Americans. One example was standard setting activity for crippled children's services and emergency maternity and infancy services during and following World War II. These standards were at least in part responsible for infection control procedures being established in newborn nursery units through the use of the cohort system and the elimination of dual standards of care between the races.

Financing. The President's Commission reported in March 1983 that the Federal Government by virtue of its enormous revenue producing power and its ethical responsibilities must assume the ultimate responsibility for seeing that health care is available to all when the market, private charity and governmental efforts at the state and local level are insufficient to achieve health care equity.

Unquestionably, the long recession of 1981-1983 found many state and local governments unable to cope with the increasing need of the unemployed, the working poor, as well as its old responsibilities to those living below the poverty line.

States such as Michigan which were having serious difficulties in financing all government services were thus especially hard hit when the Federal Government began to withdraw financial assistance from a broad range of health and human service programs. It will be difficult, if not impossible, for the states and localities to assume the full burden of responsibility if adequate financing does not continue from the Federal Government level.

In Michigan, more than 90 percent of all MCH expenditures at the State Public Health level come from federal sources of financing. Thus, if the Federal Government withdraws from this responsibility, it is clear that mothers and children in many areas of the United States will be denied access to health care.

It is essential that the Federal Government develop a partnership with states like Michigan who are willing to invest state general fund dollars in priority areas. The Federal Government should use judgment in selecting those interventions and in targeting financing at those areas of the country where maximum impact can be expected from the expenditure of those dollars.

I urge the Federal Government to put resources into those areas of the country in greatest need, and that three key interventions for infant mortality reduction be emphasized.

(1) Family planning, which costs $75 per woman per year, is by far and away the most potent and low-cost intervention the public health authorities can bring to bear. Virtually, all social and religious groups in the country approve of some form of family planning.

(2) Prenatal and infant care are low cost and effective. For example, prenatal care can be purchased in most areas of the country

for between two and three hundred dollars. This is in sharp contrast to the much higher costs associated with newborn intensive care. This expensive treatment costs $1000 per day. Not only is the therapy highly expensive, but it also causes severe disruption, pain and suffering to the family.

(3) The WIC nutrition supplement program, which costs $30 per month for a pregnant or breast-feeding woman or infant, is another good investment. Such programs should be expanded to meet 75 percent of the needy in the United States.

Funding formulas which discriminate against the Midwest and states like Michigan are most unfortunate when one takes into account that much of the human and health care needs of these populations is worse than in some other areas of the country.

Innovation. The Maternal and Child Health Program continues to do an excellent job with the federal set-aside program under the MCH Block Grant to work on innovative projects of regional or national significance. These innovations should continue and be focused on developing new approaches to longstanding problems including service models of demonstrated effectiveness. Care should also be given to assure that there is a reasonable balance between biomedical and other educational and social strategies of intervention. There should also be some balance across the country in funding these projects. Also, the results of these innovation projects should be widely disseminated to state and local governments and the public.

Monitoring. The tradition of "investigate and report" continues among maternal and child health professionals. In a democratic society, it is one of the most potent tools available for focusing interest and attention on the health problems of mothers and children.

Automated "sentinel" vital and health statistical systems should be established in key locations across the United States to provide an early warning system for infant mortality fluctuations.

Dr. Barbara Starfield, Johns Hopkins University and Dr. Ronald Williams of the University of California at Santa Barbara have proposed that sentinel reporting systems be established to provide crucial information to public policy makers and government officials on key health status indicators, one of which is infant mortality.

At the present time, U.S. statistical systems are inadequte to meet our needs for health care information. The National Center for Health Statistics continues to report provisional infant mortality rates going back to 1981. As has been demonstrated by earlier reports, the situation is fluid with regard to infant mortality and there are a great many problems, trends and analyses which need to be conducted for the 1981-85 period. This is virtually impossible when using provisional information as there is constant under reporting for the state and local level of infant mortality. For example, as late as November 1983, the National Center for Health Statistics was reporting provisional infant mortality rates for Michigan for the years 1981 and 1982 which under reported infant deaths by 130. This under reporting also led to a "provisional" lowering of the Michigan infant mortality rates, making it appear that the problem was less serious than it actually turned out to be.

Without such systems, and a Federal Government commitment to build such systems, it is unlikely that key health indicators will be tracked closely enough to protect the health of America's mothers and children.

Training. The Federal Government must assure that a continuing number of well trained maternal and child health specialists exist and can become employed in critically needed programs at the state and local level of government. These training program responsibilities can be fulfilled by supporting graduate programs in maternal and child health but also by training those who are currently at work in the field.

Training activities must be conducted in order to assure that the latest information and technology becomes available "where the rubber hits the road". This can be accomplished through newsletters and printed materials to be sure. However, most of the social change literature points to the fact that conferences, workshops and more importantly action consultation are what puts training across into the hands of those who can make use of this knowledge.

Planning, Management and Organization. With the dissolution of the beloved and productive Children's Bureau in the late 1960's, the United States found itself among a minority of developed nations without a strong national voice for children. The results have been tragic for the Nation's children. A new high-level unit should be organized.

The major charge of this new unit of government should be:

> "To investigate and report on the conditions affecting the health and welfare of America's children, youth and families."

It is essential that timely and accurate information be maintained on the health status of children, youth and families. This must also include accurate estimates of services rendered and the numbers of citizens in need of care who are not receiving such care. Such information is crucial for the President and the Congress as they discharge their duty to protect American family life.

Existing programs now operated by various branches of government should be realigned and many of them folded into the new administrative unit. Title X Family Planning and the Maternal and Child Health Block grant are two programs which should be transferred immediately.

There must also be strong program authority for coordination with other children programs like EPSDT, WIC supplemental foods and Head Start.

This unit should be responsible for carrying out the essential elements of a comprehensive maternal and child health program, including:

- Studies aimed at identification and solution of problems affecting the health and well-being of mothers and children;
- Organization of maternity services, including adequate prenatal, perinatal and postnatal care;
- Continuing health supervision services for all children from birth through childhood and adolescence;
- Organized programs of health education for parents, children of school age and the general public;
- Establishment of standards for health personnel serving mothers and children and for facilities providing for their health care;
- Systematic manpower development and training activities;
- Continuing assessment of the efficiency and effectiveness of health services for mothers and children;
- Conduct and support of operational research as a basis for further program planning and development.

In developing this realignment, the Federal Government should try to resolve programmatic conflicts which have hampered effective administration at the state and local levels. Three areas deserve priority attention:

Guidelines. Conflicts exist in the guidelines issued by the different federal agencies responsible for individual categorical programs. While some conflicts relating to certain programs with multiple legislative bases have been solved, disparities which affect the interrelationships among programs have not. Differences in eligibility guidelines set for each program preclude the automatic referral of patients from one service to another as health care needs dictate. Families cannot be treated as units because, while one family member may qualify for one service, others may not be eligible for the program suited to their needs. Thus, while a woman may be given family planning services, she may not necessarily qualify for referral to the MIC clinic for prenatal care, and her child may not be eligible for EPSDT screening.

Reporting. Each federal or state funded program has relatively large reporting demands built into its guidelines. The local health department adds heavily to this burden. In several programs, notably WIC and MIC, the volume of paper work necessary to meet reporting requirements severely limits the amount of time available to personnel for patient care. In addition to volume, much unnecessary information is requested and forms are often inefficiently designed. Most unfortunate of all, however, is the realization that information needed to evaluate the effects of a given program is not being collected. Despite the large amounts of data gathered, necessary evaluative information is unavailable, and program effectiveness cannot be adequately determined.

Funding. Since local programs are dependent upon often unpredictable federal and state sources of funds for the continuation of their projects, they are at the mercy of funding cuts and freezes at these levels. These fluctuations can prove devastating to local program operation. Long-range program planning is hindered by funding uncertainty. Categorical programs often have different fiscal years, some calendar, some using the state-federal fiscal year, and others following no particular pattern. Local Boards of Health are often using local funds to meet unanticipated cuts. This arouses great resentment among boards of commissioners and makes it much harder to introduce the next new categorical program. Long range financial planning is needed to provide stability.

State Level

Given that the Federal Government is carrying out its responsibilities, the state public health authorities also have important responsibilities which differentiate them from the other levels of government and other types of agencies including volunteer and charitable groups in health care provider organizations.

What are the elements of activities which may make up the state mission or role in carrying out a particular strategy? Among the most important are:

Planning
Promoting
Educating
Coordinating
Surveillance
Developing programs
Assuring access to quality services
Financing
Consulting
Training
Monitoring
Evaluating
Researching and innovating
Providing service

Many of these functions are interrelated, but there is often a responsibility at the state agency to initiate the process or action. The state is less often involved in the direct provision of services when contrasted with the local health department system. It is therefore of great importance that plans and programs are jointly planned and coordinated within the state-local public health system before health programs are carried out by community hospitals and agencies.

At the state level, planning on priority health problems related to that particular area's infant mortality problem should go forward. It should include a broad spectrum of involved health care agencies, public officials and the public. A lead agency for infant mortality reduction should be appointed.

Local Level

The local government is the operational arm of the health department and not only delivers services at the local level but also integrates those services into the health and social service of the community.

Local health departments are ideally suited to conduct such operations such as casefinding, primary, secondary and teritary preventive health care services, case management, referral and followup. In short, the local level should be the final "guarantor" of care, assuring needed services for women and children.

Local health departments are extremely interested in seeing that federal and state financing activities are better coordinated, particularly in the areas mentioned in the federal section on guidelines conflicts, reporting demands and funding fluctuations.

While the maternal and child health block grant program gives the appearance of consolidating thereby making many related programs easier to administer on the local level, this in fact did not occur. This is primarily due to the history of maternal and child health throughout the country in which targeting strategies did not assure the broad distribution of funding throughout all states and localities.

Summary

Federal, state and local government responsibilities in the area of maternal and child health have been briefly outlined. In general, each set of responsibilities links up with the differing perspectives which accrue to each level of government. Most importantly financing responsibilities, while spread through all levels of government, have generally been the greatest at the federal level followed by the state and local levels of government. In large measure, this reflects the taxing ability of each level of government.

It is particularly important for each level of government to meet its responsibility and to communicate to the other levels what its intentions are along with regular reports of progress. Where uncertainty exists or where any one level of government fails to meet its responsibilities, one does not have to go far to find the victims. They are reflected in adverse health status statistics such as lack of prenatal care, incidence of low birth weight and infant mortality.

ONE OF THE PROBLEMS I HAVE HEARD IS PREGNANT WOMEN MUST GET IN TO SEE THEIR DOCTOR EARLY TO GET THE CARE THEY NEED. WHAT TYPE OF OUTREACH ACTIVITIES WORK TO IDENTIFY THOSE PROBLEM PREGNANCIES EARLY?

For the delivery and implementation of an effective prenatal care program, a multitude of individual outreach techniques must be used. Several existing programs with demonstrable success have been conducted in Michigan.

During the summer of 1983, using Federal Jobs Bill monies, the Michigan Department of Public Health launched a highly successful WIC intensive Enrollment Effort, utlimately resulting in the addition of 40,000 participants to the WIC caseload within a period of less than four months. The WIC (Special Supplemental Food Program for Women, Infants and Children) Program has been demonstrably effective in saving lives and in reducing and preventing health problems for women and children who are at critical stages in the life cycle.

A prenatal care campaign initiated by the Saginaw County Health Department in 1983, with the support of a county-wide coalition of concerned organizations and individuals, encouraged pregnant women in Saginaw County to avail themselves of proper prenatal care for the full nine months of their pregnancies. The extensive media campaign preceded a 35% decrease in the county's infant mortality rate.

In Detroit and Wayne County, the Infant Health Promotion Coalition has recently unveiled a program specifically aimed at reducing the area's alarmingly high infant mortality rates. The keystone of the program is a telephone hot-line utilizing the number: 961-BABY. Other facets of the campaign include application of the slogan: "A Health Baby Begins With You," and the use of media public service announcements featuring a specially composed song.

Education, training and outreach options effectively implemented by these and other programs include:

> Use of brochures and flyers; telephone contacts; mailers to be included with ADC and MESC checks; program referral networks; advertising; media campaigns on television, radio and cable; mailings; one-to-one outreach contacts; bus cards; telephone hot-lines; speakers at meetings of professional groups, service clubs, church groups, civic organizations, and block clubs; billfold-size resource cards; identified volunteer support persons; single entry multi-service care clinics; provision of transportation; literature review committees; marketing consultation; marketing packages; educational programs; in-service training courses; perinatal coaching and coordinated professional conference participation to provide updated skills for clerical workers and professionals.

Many people fail to access prenatal care due to personal misconceptions or institutional barriers. When multiple outreach strategies are used, many of these barriers can be surmounted, thereby possibly encouraging an earlier entry into prenatal care, increasing the regularity of scheduled prenatal visits "kept" and improving chances of positive pregnancy outcomes. In selection of the outreach strategies, cultural and ethnic aspects should be addressed.

Free access to information concerning the availability of prenatal care at the local level is a necessity. A telephone "hot-line" at the state level, advertised state-wide, would provide individuals with information regarding the availability of services in their area and could expedite the early entry of many more women into prenatal care.

Health departments, private practitioners, social services departments and others need to work together to assess a client's needs and provide various services while the client is present in order to avoid multiple return visits within brief time spans.

Networking of services is needed. Client transportation and apopointment scheduling should be coordinated so the costs of revisits can be minimized.

Training funds should be made available. Providing continuing education funds, on a contractual basis, may encourage more professionals to make themselves available to local health departments as providers of low cost care.

THE PUBLIC HEALTH SERVICE RAISED CONCERN THAT THE DECLINE IN INFANT MORTALITY FOR MICHIGAN BLACKS HAS STOPPED. HOW DO YOU TARGET PROGRAMS TO THE RISK POPULATION? HOW HAVE YOU AS A STATE RESPONDED TO THESE STATISTICS?

The Michigan Health Department responded to the infant mortality problem by first developing a complete report which was presented to the public entitled, Infant Deaths in Michigan: Analysis and Recommendations. It was published in September 1982, once it became clear that our 1981 final figures showed an increase in infant mortality. The report set a goal for Michigan:

> To continue to improve infant health, and, by 1990 to reduce infant mortality by at least thirty-two percent, to fewer than nine deaths per 1,000 live births for the state as a whole and no more than twelve deaths per 1,000 for any particular geographic area and racial or ethnic group.

Specific recommendations were presented for short, medium and long-term action. Cost-effective interventions were detailed focusing on family planning, pregnancy and infant care and environmental hazard control.

A state planning group was then formed to guide the implementation effort. A first step was to identify cities and counties with the worst problems and provide funding and technical expertise to implement solutions.

In each eligible jurisdiction, the local health department served as the lead agency, supported by Department staff, and convened a group of local persons interested in maternal and child health, including local medical societies, health providers, hospitals, and other agencies in the public, private and voluntary sectors.

A local plan and budget was put together which took full advantage of all available local resources that could address the problem and which paid special attention to the specific risk factors in the community (special high risk maternity propulations are: under 19 years of age, over 40 years of age, black, poor, and/or previous pregnancy risk/problem). In some cases, the solution to the infant mortality problem did not require additional funding.

Each of the designated jurisdictions convened a local action group and submitted a plan to the Department by December 31, 1982. The plan was based on a "Request for Proposal" (RFP) sent to each Department which outlined the project requirements.

The program data from this initiative was recently analyzed in an evaluation report by University Associates, an independent contractor. They concluded, based on two quasi-experimental evaluation designs with a population of 3,359 clients that:

> The Michigan Infant Health Initiatives were effective in improving pregnancy outcome. Birthweight improved by an average of 143 grams and prenatal care began significantly earlier in pregnancy.

The Department of Public Health also worked to increase WIC Supplemental Food caseloads by 40% to 130,000 women, infants and children.

Perhaps the most important initiatives, however, were in prenatal care and family planning. Two task forces were created and two reports went to the Governor and Legislature in 1984

The prenatal care group recommended that:

- Prenatal and postpartum care basic health service should be phased in over a period of two years beginning October 1, 1984 and culminate in statewide availability as early as October 1, 1986.
- The scope of services to be included in the proposed program statement should include prenatal and postpartum health care (medical, nursing, psycho/social, nutrition), laboratory services, prescriptions, education and referral for other services.
- Prenatal and postpartum care should be guaranteed to all women in need, with financial barriers removed. Women at or below 185% of poverty (as defined by United States Department of Agriculture), and who are not eligible for Medicaid or other public or private assistance, will have their prenatal and postpartum care paid for with new state appropriations if no other source of payment exists. The new state appropriations may include a combination of state and other sources of funding. An estimated, 9,500 women are currently unable to pay and would meet these guidelines.
- Existing prenatal and postpartum services provided in Michigan must continue. Current service delivery involves a combination of providers including physician's offices, ambulatory care clinics, health maintenance organizations, community health centers, and local health departments.
- Expansion of prenatal and postpartum care should be carried out by and through local health departments which will be responsible for providing or arranging for gap-filling services and for assuring the availability and accessibility of the proposed basic health service.
- Medicaid should change its scope of service coverage to conform with the basic health service.
- Outreach, education and training should be developed and implemented to assure awareness of the availability and accessibility of prenatal and postpartum care, to improve understanding of the importance of this service, and to reach especially vulnerable target groups who would benefit most by early and continuing prenatal and postpartum care.

The Governor and Legislature accepted the Prenatal Care Report and appropriated $2.5 million in FY 1984-85 and close to $5.0 million in FY 1985-86 to carry out the plan.

The family planning group recommended that Michigan develop strong information and promotional campaigns to notify eligible women of the availability of family planning services. In addition, state level coordination of program efforts should be greatly strengthened. A statewide family planning coalition should be formed. New service initiatives should include a wide application of uniform service standards in all publicly funded programs, special approaches to vulnerable high-risk populations including women with high risk medical conditions and sexually active adolescents, more efficient management of state and local programs, careful review of new birth control methods prior to their introduction in Michigan clinics, easily accessible service locations and involvement of men in organized family programs. A new public health funding formula should be developed to encourage implementation of new program objectives.

It was also recommended that Michigan adopt the following family planning policy:

> Family planning is a cost-effective preventive health service which supports maternal and infant health and the emotional and social health of individuals and the family. Family planning includes measures to both prevent unintended births and to overcome infertility. It is based on voluntary decisions and actions of individuals and its purpose is to enable people to determine the number and spacing of their children. Family planning services should be available to all individuals in Michigan seeking such assistance.

Finally, it was recommended that the family planning service network expand over the next four years with the goal of reaching 90% of all poor women in need of public services by the end of FY 1989. The expansion must include Title XIX Medicaid, Title X, Public Health, Planned Parenthood affiliates and others.

This report was also accepted by the Governor and Legislature and $1.5 million was appropriated in FY 1985-86 to implement the findings.

Undoubtedly, Michigan will do well if it can fully implement the above initiatives. If so, the next step will be to assure comprehensive pediatric services for children, age zero to five.

Senator **Durenberger**. Our last panel is Sarah Brown, study director, for the Committee to Study the Prevention of Low Birthweight, Institute of Medicine, National Academy of Sciences, and Dr. Paul Wise, who is a director from Harvard. He can tell us all about the things he is good at. Thank you.

Ms. Brown, I believe you are first on our list of testifiers. Both of your written testimony will be made part of the record. You may proceed to summarize it.

TESTIMONY OF SARAH BROWN, STUDY DIRECTOR, COMMITTEE TO STUDY THE PREVENTION OF LOW BIRTH WEIGHT, INSTITUTE OF MEDICINE, NATIONAL ACADEMY OF SCIENCES, WASHINGTON, DC; AND PAUL WISE, M.D., DIRECTOR, PERINATAL, EPIDEMIOLOGY, JOINT PROGRAM IN NEONATOLOGY, AND FELLOW IN THE DIVISION OF HEALTH POLICY RESEARCH AND EDUCATION, HARVARD UNIVERSITY, BOSTON, MA

Ms. **Brown**. Good morning, and thank you for inviting me. I believe I was invited primarily because of my role in the Institute of Medicine report, "Preventing Low Birth Weight."[1] I was the study director. We released it last winter, and I must say it has been very gratifying to hear it mentioned so many times this morning.

As you may know, the Institute writes a lot of reports, and it is not always clear which ones are read other than by our parents and friends; and I like hearing it serve so much as a focus of conservation.

Unfortunately, it has been noted so many times that my thunder has been stolen but let me go over a few from the study nonetheless; then I want to make a couple of observations on S. 1209 as well.

I understand that you are focusing today on infant mortality, but by asking me to talk about low birth weight a bit, you have moved the discussion forward, because you are highlighting the very intimate link between those two measures. Our group, in fact, concluded that reducing low birth weight specifically would be the single most important strategy for reducing infant mortality, again because these two perinatal measures are so closely tied.

I think it is important for us all to appreciate that the principal means by which infant mortality has been reduced in the United States over the last 15 years has been our skill in orchestrating neonatal intensive services. Indeed, a sick, tiny newborn has a better chance of surviving in the United States than probably anywhere else in the world. Our neonatal services are one of the enormous success stories of the country. The question now is one of the balance between prevention and treatment; in essence, can't we find some way to reduce infant mortality that relies less on salvaging tiny newborns and more on healthier pregnancies? Along these lines we talk a lot in our report about finding ways to produce healthier, heavier," better babies" in the first place. It is a simple point that to make, but one that I find bears repeating.

The question that follows from this, of course, is how to prevent low birth weight. That, indeed, was what our group spent almost 2 years reviewing. The major message out of our report is, the cup is half full. There are a lot of unanswered questions, a lot of problems, but we clearly could be doing more to prevent low birth weight than we are, and you don't have to look very far for the answers.

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[1] See 344.

A lot of them have been mentioned this morning. Our group outlined five principal points of attack. The first was mentioned by Mayor Barry, and that is preconception health—assuring that women are much healthier before they become pregnant and not waiting until the prenatal period. for example, to address issues of smoking, inadequate weight gain or inadequate weight for height.

In this preconception are, I want to underscore the importance of family planning. You are the only person this morning that has even mentioned title X. Our report dealt extensively with that program and the essentiality of family planning. Planning for pregnancy—and all that goes with proper preconception health and family planning—is one of the principal strategies for improving infant health in this country, and I don't think that link between family planning and pregnancy outcome in the future is made often enough.

Second, the IOM advocates getting all women into prenatal care in the first timester of pregnancy. That issue has been discussed a lot this morning. I won't go over it except to mention two things: First of all, you mentioned Public Law 94-142, or rather Stanley Graven did. There is an analogy to public school as sites for delivering care in the public health area. Most women live in communities that are served by a local health department, which can serve as an existing network for reaching more women. We should not assume that there is no delivery system available that we can build on to increase access.

Senator **Durenberger**. Mostly they are out killing mosquitoes and things like that. [Laughter.]

Ms. **Brown**. No in fact many of them are involved in maternity care, but I don't think we have given enough attention to the garden variety, a local public health department as a major resource for increasing access. I think we need to consider their importance more so than we now do.

Senator **Durenberger**. That is another good point.

Ms. **Brown**. On this same subject of access, I want to highlight another ignored resource and that is nurse midwives. When we talk about communities where women cannot locate a maternity care "provider," what we're really referring to is physicians. In fact, if we relied more on nurse midwives, many of the so-called provider shortages would ease. Unfortunately, though, guild practices and other restrictive policies often keep them out of the picture, this despite the fact that in Western Europe, they are a major resource in this area.

A third thrust was to advocate the expansion and refinement of the content of prenatal care, and in particular, making it more flexible for high-risk women.

A fourth point was mounting a long-term and extensive public information campaign in the area of reproductive health. We have gotten drunk driving and child immunization into the national consciousness—it's time now for a similar thrust on a few key issues such as planning for pregnancy, obtaining prenatal care, and avoiding risky behaviors such as smoking while pregnant.

Fifth, being the National Academy of Sciences, we, of course, advocated research. And, indeed, in this area, there are enormous areas and questions that merit work.

Spanning all these specific recommendations was the clear message that we need old-fashioned Federal leadership, not always dollars, but a clear focus that this broad area of reproductive health is important.

We sort of slipped around this idea a little bit this morning, but I really commend you for focusing on the leadership role, not just the dollars, but the care.

Senator DURENBERGER. Good.

Ms. BROWN. Let me turn now to the S. 1209 for a minute. Four quick comments: I think the Commission can make a major contribution on one condition, and that is that its primary focus be on designing a very practical, feasible, fundable plan of action. We need a politically attractive plan to finance it, in particular. People often come up with ideas, but they don't talk enough about who is going to pay. I would urge that you think a lot about payment systems and who is going to actually come up with the dollars to do what we already know needs to be done. Just pulling together ideas and data will be of limited utility. Our group did it for 2 years—we don't need to repeat the process. The question now is how are we going to do what clearly needs action, and how are we going to pay for it.

Second, although the bill, as I read it, mentioned private resources and private institutions a number of times, I noted that the flavor of the bill is really oriented to public programs and public institutions. I must tell you that in working on the Institute of Medicine report, I came to the conclusion that we are going to need a much stronger private sector role in this area, and I would urge you to organize the Commission's mandate accordingly.

For example, our report emphasized the role of the media in conveying some important messages about reproductive health. The media in this country is largely a private concern. We need to enlist CBS, for example, in a variety of these issues we have been discussing. Similarly, we need to enlist full interest and support of the private doctors. In the State of Florida, I believe it is the case that only about 250 OB/GYN's, out of 2,500, accept Medicaid patients—clearly, that is an unacceptable ratio. Improving will require work with the private sector. In short, I am suggesting that the legislative history of this Commission focus a lot on private involvement and not leave all responsibility up, again, to the public domain.

Third, I noted that the bill embodies one of my most favorite recommendations from the Institute of Medicine report, and that is that we need to design some sort of system in this country for getting all women into prenatal care. Such a system must, of course, be pluralistic, involving public, private, and volunteer sectors—but something far more organized than our current patchwork, haphazard approach. Indeed, our group recommended that the Department of Health and Human Services convene a task force to design just such a system. There has, however, been no response to that idea. And I think the Commission should take up this system design matter with energy.

Fourth and finally, while the bill works its way through the Congress, and then while it does its work, we should not lose sight of some approaches already before Congress—title X, WIC, Medicaid, and related programs. We must continue to use and support existing programs for maternal and child health while we think of the grand remedy.

Thank you.

Senator **Durenberger**. Great. Thank you very much.

Dr. Wise?

Dr. **Wise**. Thank you. I am Paul Wise, the director of perinatal epidemiology, Joint Program in Neonatology at Harvard Medical School and a fellow in the Division of Health Policy Research and Education at Harvard University. I am a pediatrician on the staffs at the Children's Hospital and the Brigham and Women's Hospital in Boston, MA. My work is centered on the social determinants of infant health, some aspects of which were recently published in an article in the New England Journal of Medicine, entitled "Racial and Socioeconomic Disparities in Childhood Mortality in the city of Boston." [1]

I am grateful to the committee for the invitation to speak here today. It is my strong view that the recent period of progress in infant survival in the United States is entering a new phase of increased vulnerability. We can no longer rely on the major improvements and the survival of low-birthweight babies to drive down our infant mortality rate.

We will soon have to face the dual issues that have remained at the heart of our poor international standing in infant mortality, our high rate of low-birthweight births; second, our high rate of death during the postneonatal period. These problems are not the product of geography. They are not the product of being a heterogenous population. They are a product of our policies.

It is not the failure of medical technology that brings us to this period of increased vulnerability. It is its success, in that it has left more glaring the yet unattended issues of low birthweight and postneonatal mortality, issues which make the infant mortality rate inherently more sensitive to socioeconomic conditions, issues upon which a national commission could help focus considerable attention.

My second concern relates to the persistence of social and racial disparity in the face of significant reductions in infant mortality. This deserves special attention. Our recent study in Boston was of national interest primarily because we were able to look at what happens to racial and social disparity in a large group of children with almost total access to high technology neonatal and pediatric medical care.

Ninety-three percent of all births in Boston and 96 percent of all low-birthweight births in Boston, in fact, occur in major teaching hospitals with level three high technology neonatal intensive care units.

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[1] See p. 337.

So we were able to look, really, at the first time at a population level, what happens to disparity when you have virtual, total access to high technology medical care.

We found that high access to tertiary medical services greatly reduced racial and social disparties in infant and certain other childhood mortalities. This underscored the importance of equitable access to all levels of medical care for all children in need and the potentially disastrous consequences of allowing these critical services to be provided on the basis of social class. In a context of reduced expenditures for social programs, and in the midst of finding lower cost methods of financing health care, a process virtually entirely concerned with the parameters of adult care, I might add, we must assure that our regional systems of perinatal intensive care do not begin to unravel.

Indeed, without quick action, we may soon witness the deregionalization of perinatal services on the basis of the ability to pay, a situation likely to result in major detrimental effects on the infant mortality rates on all but the wealthiest of our citizens.

However, as important as this technical capacity was in our study in Boston, it was not sufficient to eliminate fully social disparities in infant mortality. Major inequities remain. The technologic capacity of modern medicine could not erase the legacy of larger social inequities and the failures of our present preventive policies.

Continued medical advances in no way guarantee reduced social or racial disparties. Policies which foster general improvements in the survival of our Nation's infants may not affect or could even worsen, present social and racial disparties in infant survival.

Equity in infant outcome can only be achieved when inequity in infant outcome is addressed and addressed directly. Much has been stated regarding the detrimental impact of a number of maternal behaviors including smoking, alcohol and drug abuse. It seems clear that reducing the prevalence of these behaviors could help reduce overall levels of low birth outcome.

However, there is no reason to believe that such an approach would reduce racial or social disparities in low birthweight. White women smoke more than black women during pregnancy. They also drink more than black women during pregnancy. There is little evidence to suggest that the reasons for racial or social differences in the health of newborns lie in the harmful behaviors of their mothers.

Rather, the source of disparate mortality rates lies in the inequities that heighten the prenatal and postnatal risk of illness, as well as reduce access to appropriate medical care. It is in this sense that the reduction of black infant mortality in this country means more than the mere reduction of a certain number of excess deaths; it relates directly to a more fundamental commitment to a more responsible and just society.

I clearly have great respect for the work done by many of the HHS scientists, particularly the ones that were here earlier today, Dr. Hutchins, Dr. Berendes, and their colleagues.

However, my concern is not with good science. It is with the translation of good science into good policy. I speak in strong support of a national commission, for we desperately need a coherent national policy on infant health.

At present, in my view, no such policy exists. A public commitment to improve infant survival will have to first deliberately protect the progress of the past two decades. More far reaching, however, will be those health and social policies which integrate the growing power of medical understanding with our social goals of equity and maximal opportunity, a challenge that has yet to be addressed in a national forum.

Thank you.

Senator DURENBERGER. Great. That was a terrific way to bring this hearing to a close, because you said much more succinctly what a lot of us were trying to say through the set of questions in the beginning, whether it is social justice or social policy or some larger thing. As I understand what you are saying is you can point to smoking and you can point to drinking and you can point to some of these specifics, but that isn't going to explain some of these lines.

Dr. WISE. That is right, good ideas but do not get at the heart of the disparity issue.

Senator DURENBERGER. That is right, and you need to do something about each one of them.

Dr. WISE. Absolutely.

Senator DURENBERGER. Because each one of those does have an impact on the problem we are trying to solve here.

But in the larger context, you are not going to get that red line, which is labeled "black," down, nor deal with some of these other specific problems, the poor and so forth, unless you deal with them in some context other than that of the five guys who came in here and were stuck with articulating the administration's opposition to a commission.

Is that sort of a fair summary of where we have come with this hearing?

Dr. WISE. Yes; also, I think there is a level of desperation in our voices at this point, particularly for clinicians working in the field. Commissions have perhaps been useful for different things at different times. We have great fears about the convergence of some very distressing trends. We have problems with the infant mortality rate itself at a time when we have reduced expenditures for social programs, refinancing of the whole medical care system, and who speaks for the kids and pregnant women of concern.

Senator DURENBERGER. Let me tell you the bad news on that. Kids aren't going to make it in the next 5, 10 years, period, and that includes a lot of healthy adult kids who are having it stuck to them by my generation. It doesn't want you to touch our retirement and doesn't want you to touch our free houses and our free cars and our tax deductible this, that and the other things. To hell with our kids. That is the attitude of my generation, until you do something about us who control this political system. Kids, unborn or recently born, are going to be in for a really hard time. This system is taking care of my folks' generation and their retirement, and it is sure going to take care of our generation, now and in our retirement.

As far as our children are concerned, they really have a hard time. So I think we have got to do more than a commission. I think the net result of this hearing is that we need to hear from people across the country. We need to hear something that cries out for the young and the unborn and for the recently born and for the developmentally disabled and for those who are going to die upstairs sometime today because of the problems presented for them in this light through no fault of their own.

But if we leave it to the State and local government and studies and magazine to get the job done, it isn't going to happen. So then the Nation says, children have value. Nothing is going to happen. I guess Lawton just sort of scratched the surface with his commission saying children have value, and we would like to get a bunch of folks together to say children have value. Somehow we are going to have to go beyond the commission and a lot more education. Sarah.

Ms. **Brown**. I just have two comments in that regard. When our group was working through this very fundamental question of does prenatal care make a differnce, we did it, we hope, in a scientific way. We assembled data and we looked at all the different populations that had been studied and various study methodologies and so forth. Yet the really fundamental question is, for everybody in this room, if they themselves were pregnant or their wife or partner were pregnant, would they act to obtain prenatal care or would they not? And the anwer is, yes, they would seek prenatal care without hesitation.

So it really is a social justice question as much as a scientific one. We should attend the equity and justice rationale for extending prenatal services to all, and not rely just on documented efficacy defenses.

Second comment: I have been impressed by the extent to which Western European countries have articulated maternal and child health policies. They have clearly stated in their social policies that they care about their pregnant women and children in a way that this country has chosen not to do. It again gets to that very fundamental issue of whether or not we view this group of citizens as important. Many of our difficulties seem to flow from this fundamental lack in our articulated social policies.

Senator **Durenbuerger**. Thank you all very much.

Dr. **Wise**. Thank you.

Senator **Durenberger**. I am sure we will ask both of you to elaborate for the record, although I don't think I could have done much better than you did in the 5 minutes.

[The prepared statements of Ms. Brown and Dr. Wise along with responses from Ms. Brown to written questions follow:]

PREPARED STATEMENT OF SARAH S. BROWN

Good morning. Let me first thank you for inviting me to make a statement today. Your invitation to me came, I believe, principally because of my role in developing a report released by the Institute of Medicine (IOM) last winter, entitled Preventing Low Birthweight. I was the study director of that effort and will use some of my time this morning to summarize the main messages of that report. I worked in conjunction with an expert steering committee chaired by Dr. Richard Behrman, Dean of the Case Western Reserve University School of Medicine.

The focus of these hearing is, of course, on S. 1209 and on the general challenge of infant mortality, not on low birthweight specifically. Yet by giving prominence to the particular problem of low birthweight, you have already moved the discussion forward substantially, because there is a firm link between low birthweight and infant mortality. Simply put, low birthweight (being born at less than about 5 pounds) is one of the most potent predictors of death in the first year of life. Infants weighing 2500 grams or less are almost 40 times more likely to die during their first 4 weeks of life than are normal weight infants. Very low birthweight babies (those under 1500 grams) are almost 200 times more likely to die in the neonatal period. Such figures underlie our group's conclusion that reducing the rate of low birthweight holds the key to further major reductions in the nation's rate of infant mortality. As you know, our rate of infant mortality has dropped significantly over the past 15 years, but it is important to recognize that the main reason fewer babies are dying--in the first 4 weeks of life especially--is the great success of our neonatal intensive care services. In fact, birthweight-specific neonatal mortality rates in the U.S. may well be the lowest in the world. A sick, tiny newborn has a better chance of surviving in the U.S. than anywhere else in the world. But unless we intend to save ever tinier, ever sicker newborns at great cost (it is estimated, for example, that the U.S. spends close to $2 billion annually on neonatal intensive care services) and possible increased risk of handicap, we will have to find a way to produce healthier, heavier, better babies. That is, we must prevent low birthweight and other poor pregnancy outcomes in the first place and not rely so heavily on the heroic salvage efforts of neonatal care to reduce our rate of infant mortality.

The question that follows from all of this, of course, is how can we prevent low birthweight? Our Institute of Medicine group spent two years on that specific issue and concluded that we know enough at present to be doing far more than we are to ease this important perinatal problem; and, further, that preventing low birthweight may well prove less costly both socially and economically than additional investments in neonatal intensive care. We outlined an approach to preventing low birthweight that emphasizes five principal points of attack:

1. Reducing risks associated with low birthweight before pregnancy by means of risk identification, counseling, and risk reduction; enlarging the content of general health education related

to reproduction; and continuing, expanding, and improving the provision of family planning services.

2. Increasing the accessibility of early and regular high quality prenatal care services to all women. Achieving this goal entails understanding the reasons why some women still obtain little or no prenatal care, and systematically removing their barriers to care.

3. Strengthening and expanding the content of prenatal care for all women, and increasing the flexibility of prenatal care to meet the varied needs of individual women and of selected high-risk groups.

4. Mounting a long-term, extensive public information program to increase the visibility of the low birthweight problem and to convey a few well-chosen messages about selected risk factors.

5. Conducting a multifaceted program of research on low birthweight. Topics on which research is needed span many of the health sciences and are highly diverse--from more knowledge about the biological triggers of preterm labor to descriptive surveys of the content of prenatal care.

Many of the strategies advocated in the IOM report are not new, although a few are. What is unique about the IOM report, I think, is that it argues for a multifaceted approach to prevention and gives equal weight to efforts as diverse as basic research on the etiology of low birthweight, and the importance of the Medicaid program for extending prenatal benefits to high-risk, low-income women.

With your permission, I will enter the summary of our report into the record in order to develop and document these points more adequately.

I would like to turn now to the specific issue of S. 1209. It is important to clarify that I am commenting on the bill primarily on the basis of my long-time interest in maternal and child health and do not speak for the IOM Committee on Preventing Low Birthweight. It had completed the bulk of its work by the time S. 1209 was introduced and thus was not able to discuss it. I have four reactions to the bill.

First, I want to commend the Subcommittee for taking such a deep interest in infant mortality. As you know, this problem often gets a lot of emotional attention but far too little legislative, financial, or political action. Along that line, let me sound a fairly obvious cautionary note. I believe the proposed Commission will make a major contribution to infant health and survival only if its primary focus is on designing a practical, feasible agenda for action, on lining up wide support in many social sectors to work on the agenda, and on developing a politically attractive plan for financing the recommended steps--this last function being perhaps the most important. We already have massive amounts of data, experience (particularly at the state level) and reports about infant mortality--the IOM's being one of the most recent. What we don't have, especially at the federal level, is the political will and financial readiness to do something bold and significant about the problem, to raise the issue of infant mortality higher on the national agenda, and to invest seriously in a vulnerable population. To the extent that the Commission is oriented to drafting a feasible, "fundable" plan of action, it will be useful. If, by contrast, it only assembles existing data and ideas, a major opportunity will have been lost.

Second, although S. 1209 mentions private resources and private institutions on a number of occasions, I was struck by how many of the bill's specifics and overall tone were oriented to public programs and the public sector. In working on the IOM report, I think many of us came to the view that easing the problem of low birthweight and, in turn, infant mortality, is going to require a stronger private sector concern with infant survival. For example, our IOM group urged that the media take a leadership role in conveying some simple concepts to its enormous audiences on such issues as the importance of prenatal care and the dangers of smoking during pregnancy. Another issue touching the private sector is the so-called "provider problem". Our group noted that access to prenatal services in some communities can be traced to inadequate numbers of physicians available or willing to provide such care, particularly to low income women. Clearly, we need to find some way to engage the large community of private physicians, among others, in easing the access problem. Another example involves private insurers. It is apparent that maternity services are not always covered adequately in a wide variety of health plans--here, too, we will need private sector involvement to move forward. I would urge, therefore, that the legislative history of the proposed Commission make clear that various private sector institutions should be involved in both the Commission's work and in its plan of action.

Third, I noted that S.1209 embodies at least the spirit of one of my favorite recommendations in the IOM report--namely, the need for us collectively to outline some system for making prenatal services fully available to all pregnant women in the U.S.--a system involving a wide variety of individuals and institutions (private, public and voluntary) no doubt, but one that also has some clear lines of responsibility and accountability.

As I noted earlier, the IOM report attached a lot of significance to increasing access to prenatal care, but I must tell you that as we studied all the complicated barriers that result in poor prenatal care utilization, we gradually came to the conclusion that problems of access reflect primarily the nation's patchwork, nonsystematic approach to making such services available. Although numerous programs have been developed in past years to extend prenatal care to more women, no institution bears responsibility for assuring that such services are genuinely available in some very fundamental, practical sense. Without such responsibility or accountability, it should not be surprising that gaps in care remain and that efforts to expand prenatal services often face enormous organizational and administrative difficulties.

Accordingly, we outlined a simple, direct system of responsibility and accountability, spanning federal, state, and local levels of governance. In particular we urged that the Secretary of the Department of Health and Human Services convene a task force to define such a system, suitable to our pluralistic way of providing health care in this country. As you know, no such movement has occurred at the federal level, and now that Mrs. Heckler has been reassigned to a position in Ireland, the matter is even further stalled.

It is my own hope that perhaps the proposed Commission can take up this task. It really is central to reducing infant mortality and merits sustained attention.

Fourth and finally, I want to urge that even while this Commission is being formed and during its deliberations, we not ignore some approaches already available and currently before Congress to reduce infant mortality. The IOM report, for example, suggested a number of broad directions for increasing the capacity of Medicaid to improve pregnancy outcome; it also underscored the importance of WIC and the Title X program for healthy pregnancies, and talked in detail about the need for research on many aspects of the infant mortality problem. Even while thinking of new approaches, Congress should act to support existing ones through the appropriations process and through such bills as the Medicare/Medicaid Budget Reconciliation Amendments of 1985.

MS. BROWN'S RESPONSES TO WRITTEN QUESTIONS

1. The Administration stated earlier that the link between prenatal care and its effects on reducing low birthweight is "unclear". Do you agree with that statement?

Our report gave detailed attention to the specific question you raised: can the receipt of prenatal care be shown to reduce low birthweight? We recognized that, in some sense, the relationship between prenatal care and low birthweight will never be fully understood because the research needed to assess prenatal care's efficacy - randomized controlled clinical trials - cannot be mounted. Belief in the value of prenatal services is so widespread that women and researchers alike would be unwilling to deny prenatal care altogether to one group in order to judge its impact in another. Thus, we are all in the position of having to assess the value of prenatal care based on data and judgments that are not scientifically unassailable; we must look at program evaluations, birth certificate data and others that do not have the purity that many RCT data do. It may be in this sense that the administration referred to the link being "unclear".

Nonetheless, the world is filled with difficult situations and questions that must be addressed in the face of less than ideal data. Our committee believed strongly that even in the absence of fully adequate data, much can be said about the role of prenatal care in reducing low birthweight. Our specific conclusions included the following:

- Although a few studies have not been able to demonstrate a positive effect of prenatal care, the overwhelming weight of the evidence is that prenatal care reduces low birthweight. This finding is strong enough to support a broad, national commitment to ensuring that all pregnant women, especially those at medical or socioeconomic risk, receive high-quality care.
- Because the content of prenatal care is not defined carefully in many of the studies reviewed, it is not possible to trace the benefits of care to specific aspects of the total care package.
- A major theme of virtually all the studies reviewed is that prenatal care is most effective in reducing the chance of low birthweight among high-risk women, whether the risk derives from medical factors, sociodemographic factors, or both.
- All of the studies reviewed that are based on large numbers of cases, particularly those using vital statistics data, show that prenatal care exerts a positive effect on birthweight. More variation exists among the results of studies evaluating special programs, although the majority show that prenatal care is associated with improved birthweight. Those special

programs that have shown a positive impact on birthweight usually offer prenatal care that goes beyond more routine services to include flexible combinations of education, psychosocial and nutritional services, and certain clinical interventions such as low threshhold for hospitalization, careful screening for medical risks, and a rapid response to the first signs of early labor.

- The limited impact of prenatal care suggested by some of the special programs may result from the fact that the care was not organized to address what is now known about the causes and risks of low birthweight. For example, the care may not have focused on such factors as smoking reduction, adequate weight gain, reducing alcohol and other substance abuse, patient and provider education about prevention of prematurity, or specific medical risks associated with low birthweight, such as bacteriuria.

2. Did you look at environmental factors as a variable contributing to low birthweight? Do you think it is a variable worth exploring?

I suspect that by "environmental factors," you mean toxins, workplace hazards, and related risks. Our committee acknowledged that these may indeed play a role in low birthweight (as they surely do in birth defects), but that very little data exist to estimate the magnitude of risk. The attached article is a notable exception; so also is the evidence on DES exposure. (We noted that DES produces changes in the reproductive organs of developing female fetuses that, at maturity, significantly increase the risk of a wide variety of reproductive problems including both infertility and preterm labor.) We urge further research in the broad area of environmental risks, as have many other groups. NIOSH and NIEHS both have some activities in this area that you might wish to explore.

If "environmental factors" can be construed to include both emotional and physical stress, our report had more to offer. We stated that physical stress, and probably emotional stress also, can increase the risk of low birthweight. Indeed, a major thrust of the French approach to prevention of prematurity is stress reduction. We urge further research on the role of stress in pregnancy outcome and suggest that, particularly for women judged to be at high risk of preterm labor, reducing stress in later pregnancy is prudent.

Incidence of Low Birth Weight Among Love Canal Residents

Abstract. *The incidence of low birth weight among white live-born infants from 1940 through 1978 was studied in various sections of the Love Canal. A statistically significant excess was found in the historic swale area from 1940 through 1953, the period when various chemicals were dumped in this disposal site. Potential confounding factors such as medical-therapeutic histories, smoking, education, maternal age, birth order, length of gestation, and urban-rural difference did not appear to account for this observation. Low birth weight rates were comparable to those of upstate New York from 1954 through 1978, the period when there was no deposition of chemical wastes.*

Concern about adverse health effects that might be associated with hazardous chemicals dumped at sites such as the Love Canal has been growing. Over 200 chemicals have been found in the Love Canal dump site (*1*) and many, such as benzene (*2*) and lindane (*3*), have been shown to have toxic effects on man in industrial settings. The spectrum of human hazards that might be associated with other compounds isolated in the canal, such as certain isomers of dioxin (*4*), is not known.

Two major difficulties encountered in designing epidemiologic studies of chronic diseases in multichemical settings are the uncertainty in selecting appropriate end points and the long induction period between exposure and clinical diagnosis. Certain adverse reproductive events, however—low birth weight is an example—are objectively identifiable in a relatively short period of time. We analyzed data on the incidence of low birth weight among infants born in the Love Canal area from 1940 through 1978. This time span includes periods of active dumping at the site (1940 through 1953) and no formal dumping (1954 through 1978).

The study population included all people residing in single-family houses located in a series of parallel streets (97th Street through 103rd Street), bounded on the north and south respectively by two avenues (Colvin and Frontier) (*5*). Backyards of 99 houses on 97th and 99th streets directly abut the canal.

Because there are no historical environmental data on houses in the study area, we had to infer which subsets of the study population might have maximum exposure to chemicals. We reasoned that one group might be the families who lived on 97th and 99th streets directly adjacent to the chemical dump site. The accumulation of rain and ground water, facilitated by either natural or man-made activity, could have raised the level of chemical wastes to the topsoil layer, thus facilitating lateral migration. This slowly overflowing bathtub effect could result in the transport of waste products to adjacent backyards and basements.

Another possibility was that certain chemicals in the dump site might have spread preferentially to houses located on the natural drainage pathways in the area. Before the development of housing in this area, a number of natural shallow depressions traversed the area, some of

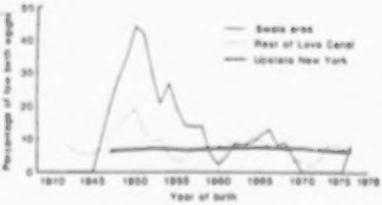

Fig. 1. The 5-year moving averages for percentages of low birth weights among infants born in the Love Canal swale area ($n = 174$), the rest of the Love Canal area ($n = 443$), and upstate New York.

which intersected the Love Canal itself. The locations of these depressions, commonly referred to as swales, were determined from aerial photographs taken in 1938, 1951, and 1966. The photographs were independently interpreted by a group at the Cornell University School of Civil and Environmental Engineering who had no knowledge of the hypotheses being tested. These depressions served as drainage ways and produced ponding in certain sections during times of high water. Additional verification of historical drainage pathways was obtained from interviews with area residents and review of their photographs and motion pictures. As the area was developed, the contour and extent of these swales was substantially modified. By 1956, the major swale which intersected the upper section of the canal was eliminated. The identification of houses located on these natural depressions was established from serial aerial photographs taken between 1938 and 1966. Still another possibility was that residents in the entire study area might have been exposed to toxic vapors emanating from the dump site. Accordingly, we hypothesized that there was an excessive incidence of low birth weight infants who were conceived and born in each of these areas.

In an effort to identify and interview all individuals who resided in the study area at any time from 1940 through June 1978, the following sources were used: a review of all property records on file at the assessor's office in Niagara Falls, New York; city directories for all available years in the study period; calls to hot lines indicating individuals with prior residency in the area; and residents identified by those who lived in the area and were interviewed in 1978. Birth files from vital records at the New York State Department of Health were searched manually for all surnames identified through these sources, for the years 1940 through 1978. In addition, all available computerized vital record birth files (1958 through 1978) were surveyed to identify live births in the study area as a check on the other data. No additional births were found for the period. With use of a prepared questionnaire, adult residents (18 years of age and older) were interviewed about past medical, therapeutic, social (smoking, alcohol, and educational), and occupational histories. Pregnancy histories were obtained from all females. The same field investigators conducted the interviews throughout the study.

Of the 1295 adult females who were identified as having resided in the study area, 1201 (92.7 percent) were located and interviewed. Forty-one (3.2 percent) were located but refused to be interviewed, and 53 (4.1 percent) could not be located. There were 383 women who had a total of 617 children [612 (99 percent) white, 4 black, and 1 American Indian] born alive in the study area from January 1940 through June 1978. They had resided in the area an average of 11.0 years (range 1 to 30 years) during their reproductive period (15 through 44 years of age). Birth certificate information for all infants born to women who had lived in the area for at least 9 months before the time of the birth of the child was obtained from the State's Bureau of Vital Records. The address was reviewed and the birth weight shown on the certificate recorded. If the resident address on the birth certificate was not a study area address, the birth was not considered in the analysis. Infants who weighed 2500 g (5 pounds, 8 ounces) or less were considered low birth weight children.

The proportion of low birth weight infants among all live births was established for the entire study area, the swale area, and the area abutting the canal. The average proportion of all white infants of 2500 g or less at birth for upstate New York (that is, New York State, excluding New York City) from 1945 through 1978 (6) (5,088,556 live births, 351,682 ≤ 2500 g, 6.9 percent low birth weight) was used in comparisons to indicate whether there was an excess of low birth weight children in the various study areas. As another comparison, the proportion of low birth weight white children for all cities of population 25,000 or greater (1970 census) in upstate New York from 1953 through 1978 (7) was calculated (1,043,066 live births, 80,938 ≤ 2500 g, 7.8 percent low birth weight). Sex ratios (male rate divided by female rate) were calculated for each Love Canal study area, for upstate, and for the urban group. Binomial probabilities of the observed number or more of low birth weight children were established for each study area on the basis of these rates. Probabilities of differences between areas within the canal were also established by the normal approximation of the difference between two proportions (z test, one-tailed). This was also done for differences when smoking history of mothers and household education (highest number of years of school completed by either parent) were considered. An examination of the past medical, therapeutic, social, and occupational histories of adult females with live births did not reveal any unusual patterns, such as radiation therapy or known infection during pregnancy, in any of the areas studied.

The expected number of low birth

Table 1. Total live births and children born with low birth weights in the swale area compared with the rest of the Love Canal (that is abutting the canal and nonswale) and by the known smoking and educational histories. The P values are based on one-tailed z tests for two proportions. Numbers in parentheses are percentages.

History	Number of births				P
	Swale		Rest of canal		
	Live	Low birth weight	Live	Low birth weight	
All live births	174	21 (12.1)	443	32 (7.2)	0.027
Smoking					
Never smoked	70	7 (10.0)	174	7 (4.0)	0.035
Smoked	102	13 (12.7)	265	25 (9.4)	0.175
Household education					
<12 years	41	6 (14.6)	105	3 (2.9)	0.004
12 to 15 years	124	14 (11.3)	285	24 (8.4)	0.179
≥16 years	7	1 (14.3)	44	0 (0.0)	

weight children by age of mother was determined from the proportion of low weight children in each age group in upstate New York and the number of live births by age of mother in each area. The probabilities of the differences were calculated (χ^2 test). The same analyses were done for birth order. Gestational age (under 37 weeks) of low birth weight children was examined for each area and for upstate New York. Finally, temporal trends in each study area were evaluated by calculating 5-year moving averages of the percentage of low birth weight children by year of birth.

Among the 617 children born in the entire study area, 53 (8.6 percent) had low birth weights. In the houses abutting the canal, there were 124 live births with 8 (6.5 percent) low birth weight infants, and among the 174 live born infants in the swale area, 21 (12.1 percent) had low birth weights.

The binomial probabilities of the numbers of low birth weight children observed for the entire study area as well as for the area abutting the canal were within chance variation ($P > 0.05$ for all) when compared with upstate New York or the urban areas. The χ^2 probabilities of the distributions by maternal age and by birth order when compared with upstate New York were also within chance variation ($P > 0.05$ for both). However, the number of low birth weight infants born in the swale area was significantly more than both upstate New York (binomial, $P = 0.009$) and the urban area group (binomial, $P = 0.029$) (*8*). When the data were analyzed by age of mother and by birth order, the number observed in this area was also significantly more than upstate New York for each [respectively, $\chi^2(1) = 7.0514$, $P = 0.008$; $\chi^2(1) = 6.7438$, $P = 0.009$].

Swale area residents had significantly more low weight children than did the residents of the rest of the canal ($P = 0.027$) (Table 1). This was also true among women who had never smoked ($P = 0.035$). Results for educational level are also shown in Table 1. The proportions of low birth weight children for whom gestational periods were under 37 weeks were similar in the swale area and the rest of the canal: 52.4 and 53.1 percent, respectively. The percentages in both areas were consistent with that of upstate New York (48.9 percent) ($P > 0.05$ for both).

The sex distributions for all live births and low birth weight children in the swale area and the rest of the canal were all within chance variation (z test, two-tailed, $P > 0.05$ for each) when compared to those of upstate New York and the urban areas. The average length of residence for all women with live births was 10.8 years for the swale area and 10.3 years for the rest of the canal. For women who had a low weight child the averages were 10.9 years for swale area residents and 11.4 years for residents of the rest of the canal. For those without a low weight child the average residence was 10.8 years for swale residents and 10.2 years for the rest of the Canal. None of the differences between areas, or within area by weight of child, was statistically significant ($P > 0.05$ for all).

The 5-year moving average of the percentage of low birth weights indicated that in the swale area there was a marked excess of these births starting in 1946 and ending in 1958 (Fig. 1), peaking in 1950 (8 of 18 infants, 44.4 percent). The rest of the canal area also showed a peak in 1950, but the magnitude was not as large (4 of 21 infants, 19.0 percent) and the time span, 1947 to 1953, was shorter. For the period of active dumping (that is, prior to 1954), the swale area's percentage of low weight births was higher than in upstate New York (z test, $P < 0.0001$) and the rest of the canal (z test, $P < 0.012$). Low birth weights in the rest of the canal were not significantly higher than in upstate New York ($P > 0.05$).

It is important to emphasize that the low birth weight data used for all analyses were obtained from birth records and not through interview. There are several major difficulties in study design that limit the interpretation of results. It is not certain that all infants born in the area during the study period were included in this investigation. Although it is clear that human exposure to a specific toxic agent can result in an adverse reproductive outcome (*9*, *10*), it is exceedingly difficult to define exposure in multichemical settings such as the Love Canal. In addition, the evidence associating low birth weight with toxic chemical exposure is limited (*11*). Other variables, for which there are no objective data, can influence the frequency of the end point. Although we found no convincing evidence that educational level, smoking, occupation, past medical or therapeutic histories influenced the results, most of these data were obtained from interviews and are, therefore, subject to recall bias. In addition, it was impossible to examine other important variables such as alcohol ingestion before and during the pregnancies included in this study.

Despite these limitations, our findings suggest that a real excess of low birth weights occurred in the swale area during a time period when there was active dumping at the Love Canal. Whether other objective health end points, such as congenital defects, will show similar results is not yet known. In any event, our study also suggests that infants born alive in the Love Canal study area between 1960 and 1978 were at no greater risk of low birth weight than were those born in upstate New York.

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6. Birth weight data before 1945 were not available.
7. Urban rates were obtained from Vital Records of the New York State Department of Health (1958 through 1978) and Vital Statistics of the United States (1953 through 1957) (Government Printing Office, Washington, D.C., 1955 through 1959). Data for cities for years before 1953 were not available.
8. Stillbirths were excluded from our analysis because there were only a total of seven among residents of the Love Canal area during the study period. Four were born to residents of the swale area of which two were low birth weight. Of the three born to residents of the rest of the canal, one was low birth weight, one was not, and the status of the third was not known. In order to determine whether their exclusion could significantly distort the frequency of low birth weight infants in one or more of the study areas, we analyzed total births (including stillbirths) and found that our findings were not altered ($P = 0.008$ for the period of active dumping in the historical swale area compared to the rest of the canal).
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Testimony of Paul H. Wise, M.D., M.P.H.
Before The
Subcommittee on Intergovernmental Relations
United States Senate
October 31, 1985

I am Paul Wise, a pediatrician on the staffs of The Children's Hospital and the Brigham and Women's Hospital in Boston, Massachusetts. I am the Director of Perinatal Epidemiology of the Joint Program in Neonatology, Harvard Medical School, and a Fellow in the Division of Health Policy Research and Education, Harvard University. My work is centered on the social determinants of infant health, some aspects of which were recently published in an article on this topic in the New England Journal of Medicine entitled "Racial and Socioeconomic Disparities in Childhood Mortality in the City of Boston." I am grateful to the committee for the invitation to testify on this important topic.

Infant mortality in the United States has been reduced dramatically over the past two decades. Rarely has the mortality rate of any age group shown such significant improvement over such a relatively short period of time. This experience has been viewed widely as a major success; a testament to America's technical capacity and medical innovation. I too believe this record deserves attention and is worthy of considerable pride.

The question then is why, in the face of this recent experience, is a National Commission on the Reduction of Infant Mortality of great national importance. The answer, I suggest, lies in two areas: first, the emerging potential for serious deterioration in the infant mortality rate of the general population in this country; and second, the tragic persistence of major racial and social disparities in infant survival in the United States.

It is my view that the period of continuing progress in infant survival is entering a new phase of increasing vulnerability. Our work and the work of others has shown that the driving force behind the recent reductions in infant mortality has been the improved survival of low birth weight babies, due primarily to the development and clinical implementation of intensive technologies. However, it seems clear that this dependency will soon run its course. For as we improved dramatically our capacity to save smaller and smaller newborns, we have done little to reduce the rate at which these high risk babies were being born. In addition, the mortality rate of all infants during the postneonatal period also remains high. We are fast reaching the limits of our technology to save extremely premature infants. It is therefore quite likely that the infant mortality rate will become increasingly dependent upon this postneonatal mortality rate and the birth rate of low weight babies. Because these two persistent problems are closely related to alterations in social conditions, these two components will convey to the infant mortality rate a heightened sensitivity to economic trends and levels of social funding. It is not the failure of medical technology that brings us to this period of increased vulnerability. It is its success, in that it has left more glaring the yet unattended issues of low birth weight and postneonatal mortality; issues upon which a national commission could help focus considerable attention.

It is important to remember that our relatively poor international standing in infant mortality is due to our relatively poor low birth weight rate and postneonatal mortality rate. This poor standing is not the product of geography. It is not the product of being a heterogeneous population. Nor is it an issue of genetics. It is my view that it is a product of the life conditions we tolerate and public policies we implement which affect the health of women and young children in our society.

It is my contention that the gains of the past now force us to confront the underlying problems that remain. However, even the gains of the past are presently threatened. An approaching period of enhanced vulnerability is also due to restructuring of the financial base of health care in this country. The medical innovation of the past decade would have had little impact were it not for public policies which determined its functional availability to those in need. Of particular importance has been Medicaid and funds for regionalization. Without special protection, a realignment in access based on an ability to pay could signal the "deregionalization" of perinatal care based on social class, and result in major detrimental effects on the infant mortality rates of all but the wealthiest of our citizens. I am convinced that in the midst of finding lower cost methods of financing health care - a process almost entirely concerned with parameters of adult care - the effective and hugely successful system of caring for high risk infants could quickly begin to unravel. Direct attention must be paid to the special health care needs of the newborn, and a national commission would no doubt assist in generating such attention.

The persistence of social and racial disparity in the face of significant reductions in infant mortality deserves special attention. National data indicate that while infant mortality rates for all newborns have fallen, social and racial disparities persist, and in some areas have actually worsened. Our recent study in Boston found that high access to tertiary medical services greatly reduced racial and social disparities in infant and other childhood mortalities. This underscored the importance of equitable access to tertiary level medical care for all children in need, and the potentially disasterous consequences of allowing these critical services to be provided on the basis of social class. However, as important as this technical capacity was, it was not sufficient to eliminate fully racial or social disparities in infant mortality. The technologic capacity of modern medicine could not erase the legacy of larger social inequities which continue to shape the living social environment of children and pregnant women.

This raises a central issue in confronting disparate infant mortality rates in this country. Continued medical advances in no way guarantee reduced social or racial disparities. Policies which foster general improvements in the survival of our nations's infants may not affect, or could even worsen present social and racial disparities.

Equity in infant outcome can only be achieved when inequity is addressed. Much has been stated regarding the detrimental impact of a number of maternal behaviors, including smoking, alcohol and drug abuse. It seems clear that reducing the prevalence of these behaviors could help reduce overall levels of poor birth outcome. However, there is no reason to believe that such an approach will reduce racial disparities in birth outcome. White women smoke more than black; they also drink more than black. There is little evidence to suggest that the reasons for racial differences in the health of newborns lie in the harmful behaviors of their mothers. There is also little evidence to suggest that genetic differences are responsible for differences in mortality. It has been noted that even with similar incomes blacks are more likely to suffer neonatal death than are their white counterparts. This has been taken by some to indicate differential genetic predispositions. However, income does not explain fully what it is to be black in our society. Rather the source of disparate mortality rates lies in the societal inequities that continue to be associated with race in our society, and that heighten prenatal and postnatal risk of illness, as well as reduce access to appropriate medical care. It is in this sense that the reduction of black infant mortality means more than the mere reduction of a certain number of excess deaths; it relates directly to our more fundamental commitment to a more responsible and just society.

I speak in strong support of a national commission, for we desperately need a coherent national policy on infant mortality. At present we have none. It is important to recognize that our present policies so crucial to improved infant well-being are inherently vulnerable to revision. A public commitment to improved infant survival will have to first deliberately protect the progress of the past two decades. More far-reaching, however, will be those health and social policies which integrate the growing power of medical understanding with our social goals of equity and maximal opportunity; a challenge that has yet to be addressed in a national forum.

Senator **Durenberger**. I appreciate everyone being here today, and the hearing is adjourned.

[Whereupon, at 12:30 the subcommittee was recessed to reconvene subject to the call of the Chair.]

ADDITIONAL MATERIAL SUBMITTED FOR THE RECORD

II

99TH CONGRESS
1ST SESSION

S. 1209

To establish the National Commission to Prevent Infant Mortality.

IN THE SENATE OF THE UNITED STATES

MAY 23 (legislative day, APRIL 15), 1985

Mr. CHILES (for himself and Mr. BENTSEN) introduced the following bill; which was read twice and referred to the Committee on Governmental Affairs

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A BILL

To establish the National Commission to Prevent Infant Mortality.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That this Act may be cited as the "National Commission to Prevent Infant Mortality".

FINDINGS AND PURPOSE

SEC. 2. The Congress finds and declares that:

(1) The United States ranked seventeenth in the world in 1982 with an infant mortality rate of eleven and two-tenths deaths per thousand live births, a higher rate than many developed nations of the world.

(2) The infant mortality rate in some areas of the United States is twice the national rate.

(3) The main cause of a high infant mortality rate is low birthweight. Some 6.7 per centum of all infants born in the United States are of low birthweight.

(4) Inadequate prenatal care is associated with an increased risk of low birthweight. Some twenty-five percent of all pregnant women in the United States do not begin prenatal care until after the first three months of pregnancy, if at all.

(5) In certain areas throughout the United States, there exist barriers to medical services, nutritional support, educational opportunities, and financial support for adequate health care for pregnant mothers and infants. The absence of needed support services during prenatal care, labor and delivery, and post-partum care through the age of one year contributes substantially to a high national infant mortality rate.

(6) Our Nation, which benefits from many diverse governmental and private resources, has a patchwork, uncoordinated, and little understood approach to the delivery of services associated with preventing infant mortality.

(7) The Congress and the President can act to prevent infant mortality and the incidence of low birth-

weight infants by establishing a commission by law, whose purpose shall be to address respective governmental and private roles in the delivery of services associated with preventing infant mortality, and to recommend actions designed to change and improve the Nation's comprehensive approach to this national problem.

DEFINITION

SEC. 3. For the purposes of this Act, the term "infant mortality" refers to the number of infants born alive but who die before their first birthday.

ESTABLISHMENT OF A NATIONAL COMMISSION

SEC. 4. (a) To accomplish the purpose set forth in section 2 of this Act there is established the National Commission to Prevent Infant Mortality (hereinafter referred to as the "Commission").

(b) The Commission shall be composed of fifteen members, as follows:

(1) Two members of the Senate, one to be selected by the majority leader of the Senate, the other to be selected by the minority leader of the Senate.

(2) Two members of the House, one to be selected by the Speaker of the House, the other to be selected by the minority leader of the House.

(3) Three members from representatives of State and local government; to be selected by the President

and no more than two of whom shall be members of the same political party. One shall be a Governor; one shall be a State legislator; and one shall be a representative of local government.

(4) The Secretary of Health and Human Services shall be a member.

(5) The Comptroller General of the United States shall be a member.

(6) Six at large members, with demonstrated expertise in maternal and child health, shall be jointly selected by the majority leader of the Senate and the Speaker of the House.

(c) The Commission shall select a Chairperson and Vice Chairperson from among its members.

(d) Eight members of the Commission shall constitute a quorum, but a lesser number may hold hearings.

(e) The Commission shall meet at the call of the Chairperson.

(f) Members shall be appointed for the life of the Commission. Any vacancy in the Commission shall not affect its powers, but shall be filled in the same manner as the original appointment.

DUTIES OF THE COMMISSION

SEC. 5. (a) The Commission shall:

(1) Identify and examine comprehensively Federal, State, local, and private resources which impact infant mortality, including but not limited to—

(A) the effectiveness and adequacy of programs such as the Supplemental Feeding Program for Women, Infants, and Children; the Maternity and Infant Care Program; the Improved Pregnancy Outcome Program; the Maternal and Child Health Block Grant; Community Health Centers; prepregnancy services and other programs that increase access to prenatal and postnatal education, care, and nutrition;

(B) the effectiveness of current Federal and State policies under the Medicaid Program to ensure adequate access to prenatal and postnatal care for low-income pregnant women and mothers;

(C) the role of income maintenance and other programs that impact infant mortality such as Aid to Families with Dependent Children and Federal housing subsidies; and

(D) the adequacy of current Federal and State efforts to enable an appropriate distribution of properly trained health care professionals to provide comprehensive maternal and child health services.

(2) Identify current financial, intergovernmental, and within the Federal Government, interagency barriers to the health care needed to prevent high infant mortality.

(3) Review recommendations made in recent regional and national reports that promote the health status of childbearing women and their infants and carry forward such recommendations as deemed appropriate.

(b) The Commission shall—

(1) recommend a national policy designed to change and improve the current approach to preventing infant mortality. Such recommendations shall include appropriate roles for the Federal Government, States, local governments, and private institutions;

(2) recommend to the Congress and the President what specific changes are needed within Federal laws and Federal programs to achieve an effective Federal role in preventing infant mortality; and

(3) present such recommendations to the President, the Speaker of the House, and the majority leader of the Senate no later than one year after enactment of this Act.

POWERS OF THE COMMISSION

SEC. 7. (a) The Commission, or at its direction, any subcommittee or member thereof, may for the purpose of carrying out the provisions of this Act, hold such hearings, sit and act at such times and places, take such testimony, receive such evidence and administer such oaths, as the Commission or such subcommittee or member may deem advisable. Such attendance of witnesses and the production of such evidence may be required from any place within the United States at any designated place of hearing within the United States. Any member of the Commission may administer oaths or affirmations to witnesses appearing before the Commission, subcommittee, or member thereof.

(b) The Commission may require by subpoenas the attendance and testimony of such witnesses and production of such materials as the Commission may deem advisable.

(c) To carry out this Act, the Commission may enter into such contracts and other arrangements to such extent or in such amounts as are provided in appropriation Acts, and without regard to the provisions of section 3709 of the Revised Statutes (41 U.S.C. 5). Contracts and other arrangements may be entered into under this subsection with or without consideration or bond.

(d) The provisions of the Federal Advisory Committee Act shall not apply to the Commission.

COMMISSION STAFF

SEC. 8. (a) The Chairperson and Vice Chairperson of the Commission shall appoint an executive director. The employment of such executive director shall be subject to confirmation by the Commission.

(b) The Commission may appoint and terminate the executive director selected under subsection (a) and such other personnel as it considers appropriate to assist in the performance of its duties under this Act, without regard to the provisions of title 5, United States Code, governing appointments in the competitive service, and may pay such executive director and other personnel without regard to the provisions of chapter 51 and subchapter III of chapter 53 of such title relating to classification and General Schedule pay rates.

(c) Service of an individual as a member of the Commission or employment of an individual by the Commission on a part-time or full-time basis and with or without compensation shall not be considered as service or employment bringing such individual within the provisions of any Federal law relating to conflicts of interest or otherwise imposing restrictions, requirements, or penalties in relation to the employment of persons, the performance of services, or the payment or receipt of compensation in connection with claims, proceedings, or matters involving the United States. Service as a member of the Commission or as an employee of the Commission, shall not be considered service in an appointive or elective position in the Government for purposes of section 8344 of title 5, United States Code, or comparable provisions of Federal law.

(d) Subject to such rules as may be prescribed by the Commission, the Chairman of the Commission may procure temporary and intermittent services under section 3109 of title 5, United States Code, at rates for individuals not to exceed the daily rate payable for GS–18 of the General Schedule under section 5332 of such title.

SUNSHINE PROVISION

SEC. 9. The Commission shall establish procedures to ensure its proceedings are open to the public to the maximum extent practicable.

TERMINATION OF THE COMMISSION

SEC. 9. Ninety days after the Commission submits its recommendations as required by section 5(b)(3) the Commission shall terminate.

AUTHORIZATION OF APPROPRIATIONS

SEC. 10. There are authorized to be appropriated to the Commission such sums as may be necessary to carry out this Act.

STATEMENT OF MELBA DARDIN, R.D.

OVER THE PAST 12 YEARS NEONATAL AND OBSTETRICAL CARE HAVE ADVANCED TECHNOLOGICALLY TO SIGNIFICANTLY IMPACT THE SURVIVAL OF THE ILL AND PREMATURE NEWBORN. INDEPTH ANALYSIS SHOW VARIANCE IN CONDITIONS WHICH IMPACT FINAL OUTCOMES. MORE PROGRESS HAS BEEN MADE IN AREAS SUCH AS RESPIRATORY DISTRESS SYNDROME. HOWEVER, ACROSS THE BOARD THE SIGNIFICANCE OF BIRTHWEIGHT ON SURVIVAL IS OUTSTANDING. BOTH INBORN AND OUTBORN INFANTS HAVE A GREATER THAN 10% BETTER SURVIVAL RATE IF THEIR BIRTHWEIGHT IS GREATER THAN 1500 GMS OR 3½ LBS. LOW BIRTHWEIGHT INFANTS ACCOUNT FOR GREATER THAN 60% OF THE TOTAL NEONATAL DAYS AND RESOURCES. IMPACTING THE WEIGHT AT WHICH INFANTS ARE BORN WILL INCREASE THE CHANCE OF SURVIVAL.

OVERALL STATE STATISTICS PROJECT 4% OF ALL BIRTHS WILL REQUIRE NEONATAL INTENSIVE CARE. IN OUR HOSPITAL OVER THE PAST 9 MONTHS 22% OF INFANTS WHOSE MOTHERS HAD NO PRENATAL CARE REQUIRED HOSPITALIZATION FOR AN AVERAGE OF 18 DAYS EACH.

THE IMPACT OF LOW BIRTHWEIGHT DOES NOT STOP IN THE NEONATAL NURSERY. FOLLOW UP DEVELOPMENTAL EVALUATIONS INDICATE IT IS ONE OF THE TWO MOST SIGNIFICANT FACTORS IN DEVELOPMENTAL DELAY. SOCIO ECONOMIC FACTORS ARE ALSO SIGNIFICANT.

BEFORE 1980 IN TEST OF 232 CHILDREN:

8.7 % WERE DELAYED IQ < 69

12.9 % AT RISK IQ ≥ 69 ≤ 84

1981 TO 1984 IN TEST OF 400 CHILDREN:

3.7 % WERE DELAYED

6.7 % AT RISK

AGAIN THE DATA SHOWS CORRELATION WITH DELAYS TIED TO LOW BIRTHWEIGHT. NATIONAL DATA BEFORE 1974 SHOWS A 50% RATE OF DEVELOPMENTAL DELAY IN INFANTS 1500 GMS (3½ LBS.). SINCE THE INCREASE IN NEONATAL INTENSIVE CARE IT HAS DECLINED TO <25%. MEDICAL AND DEVELOPMENTAL FOLLOW UP COST IS ESTIMATED AT: $360/YR FOR NORMAL CHILD

$800/YR FOR MILD TO MODERATE DELAYED CHILD

COST AVOIDANCE FROM THE IMPROVED DEVELOPMENTAL DELAY RATE HAS BEEN CALCULATED AS 250,000 PER CHILD OR 93.5 MILLION FOR THE STATE OF FLORIDA. for infants born in 1984.

DECREASING MORBIDITY IS SAVING DOLLARS AND RESOURCES NOW AND THE FUTURE. ALL NEONATAL PROBLEMS CANNOT BE ELIMINATED BY IMPROVED PRENATAL CARE AND SUFFICIENT SUPPORT FOR THIS MUST CONTINUE. HOWEVER, DECREASING THE LOW BIRTHWEIGHT INFANTS CAN HELP PRESERVE RESOURCES TO ACCOMPLISH THE TOTAL GOAL OF HEALTHY MOTHER AND HEALTHY CHILD.

Planned Parenthood®
Florida Association of Planned Parenthood Affiliates, Inc.

PUBLIC HEARING ON INFANT MORTALITY

November, 1985

Testimony by

Florida Association of Planned Parenthood Affiliates, Inc.

On behalf of Florida Planned Parenthood's, we are pleased to be able to participate in this public forum on infant mortality. We commend you, Senator Chiles, for issuing a national call for solutions to this perplexing problem. Preventing infant deaths by ensuring better birth outcomes has far-reaching implications for improving the health status of the general population and preventing disabilities in children.

Planned Parenthood is the largest and oldest private provider of voluntary family planning services in the United States. In Florida the eight Planned Parenthood affiliates provide family planning services to more than 20,000 women. Approximately 50 % of these women have incomes at or below 150% of poverty guidelines. We are strong advocates for maternal and child health services, particularly for low income and adolescent women who are ones most likely to have difficult birth situations.

For several years Planned Parenthood advocates have promoted improved funding for prenatal care in Florida. Early and adequate prenatal care is key to improving birth outcomes. We believe it should be available to all women.

Florida is very fortunate to have the support of many policymakers who understand the significance and potential impact of reducing low weight births through improved maternal and child health programs. Approximately 70% of those who need publicly subsidized prenatal care can now receive it through Florida's prenatal care program. We hope that percentage wil increase to 100% during the next couple of years.

Family planning programs, however, do not enjoy the widespread support that is received by prenatal care. Yet, the spacing of pregnancies is an essential part of improving birth outcomes by enabling women to prevent pregnancies that are too close or too soon in their lives.

Florida family planning services are reaching less than 50% of the estimated need for services. More than 400,000 poor Florida women are at risk of unintentional or unwanted pregnancy and want family planning services. Only about 170,000 of these women are receiving services. There are waiting lists in many programs, and very limited clinic hours in others, making it difficult for women to receive services.

In addition, there is a group of people with incomes just above 150% of poverty guidelines who cannot afford services from the private sector. Some of these individuals are able to receive services at Planned Parenthoods which are funded almost exclusively by private sources and fees. However, many more programs are needed. For this group, a poor birth outcome will quickly move them into poverty status.

Of special concern to Planned Parenthood is the pregnant adolescent. More than 15,000 babies are born each year in Florida to mothers age 18 and under. The United States has the highest rate of adolescent pregnancy among the developed countries.

Babies of these young women account for a disproportionately high share of neonatal mortality. They often require intensive (and expensive) hospital care and are at increased risk for a range of infant and child health problems that may later require even more extensive medical and educational intervention.

Prevention of pregnancy for this group of young people through education and family planning services when needed, should be a primary goal. For those are pregnant, early prenatal care is essential. Following up after pregnancy has been shown to be important to keeping the adolescent parent in family planning or other maternal and child health programs. About 25-35% of adolescent mothers have a second child within 18 months unless intensive follow-up is provided. This second pregnancy is an even higher risk for a poor birth outcome and is a significant barrier to achieving economic independence.

Programs to provide the special services needed by pregnant adolescents are seriously limited. Pregnant adolescents are dropping out of school programs, obtaining late or no prenatal care and have little follow-up. Their needs are great and urgent!

The desire to prevent human tragedies so often associated with difficult birth outcomes is sufficient motivation for many people to strongly support maternal and child health programs. For the most hesitant, however, the cost effectiveness of these programs cannot be denied. For a mere $85, a woman can receive a full year of family planning services to enable her to plan and space pregnancies. For about $300 (in Florida) prenatal care can be provided through county health unit programs. Florida studies of the cost-effectiveness of these programs indicate a return in the next fiscal year of $3.00 to $4.00 for each $1.00 invested in services. This does not include the saving made by preventing the need for neonatal intensive care services which cost from $15,000 upwards. The dollars and cents of these programs make sense!

We appreciate the opportunity to share some of our concerns with you through this forum.

Amanda St. John
Executive Director

STATEMENT OF BARBARA HOLLAND, R.D.

October 3, 1985

I believe it is critical to pass S.B. 1209 to establish a Commission to prevent infant mortality.

As a Public Health Nutritionist, Registered Dietitian, and Nutrition Chairman of South County Political Cooperative Committee on Education, my professional concerns are to educate the public and private sector of the community on the importance of proper nutrition during all stages of the life cycle. My priorities are to those populations targeted at greatest nutritional risk--infancy, childhood, adolescense and the elderly populations; specifically those groups of people with chronic diseases or multiple chronic disease.

Good nutrition is what provides growth and development throughout the life cycle from conception until death. We need nutrients in different quantities depending on our age, growth periods and activities. Nutrition education in the schools is important from grades Kindergarten to 12. It is essential to understand the body as it develops and to recognize the physiological changes it needs during life. Malnutrition exists in the United States as well as in Ethiopia!

Women who are pregnant need to receive prenatal care and nutrition intervention to understand the importance of weight gain from nutrient dense calories and its correlation to birth weight outcome. Programs on the federal, state and local level need to be available for the pregnant woman from conception through delivery.

We cannot prevent women from getting pregnant but we can reduce the infant mortality rates and decrease neonatal costs by providing adequate prenatal health and nutrition carefrom conception through delivery. This is especially important for teenage expectant mothers whose bodies are still growing along with their babies.

Let us look at the development of the embryo. The first trimester of pregnancey is critical and important for babies growth. During this time the baby's organs--heart, brain, stomach, arms, legs and fingers form. Good nutrition is very important. By the end of the first trimester the baby will be about 3 inches long and weighs about 1 ounce.

By the second trimester all of the baby's organs are formed. The abdomen continues to enlarge and the baby's movement becomes more vigorous. The heart beat is now heard with a doctor's stethoscope. By the end of the second trimester, the baby is about 14 inches long and weighs around 1½ pounds.

By the beginning of the third trimester, the baby's eyes may occasionally be open for short periods of time, and if born at this time the infant would be considered a premature baby and requires special care. Weight is approximately 2½ pounds and length is about 15 inches. At the end of the third trimester the baby has now reached a size and maturity that will sustain life outside the mother's body. The baby weighs around seven pounds and is 20 inches or more in length.

The majority of women who come for health care in the clinic setting usually comes during the last trimester of pregnancy. At this point the fetus is well developed.

If we were to implement better education in the school system, and provide prenatal care on the basis of a positive pregnancy screening test, we would be better equipped to handle comprehensive health and nutrition care to patients and substantially reduce infant mortality rates.

I realize we get confused as to what comes first the chicken or the egg, but federal programs currently provide family planning to anyone in any economic strata. I would make an educated guess that the majority of family planning patients that attend County Health Department clinics are indigent and a minority are affluent. I also believe if we provided prenatal care to anyone, the distribution would be the same. A major problem that delays early prenatal care of our patients is the bureaucratic red tape that an individual must go through to prove financial eligibility for services. A good example of this is the indigent pregnant teenager who is extremely disturbed and frightened after facing a parent or guardian. Then the red tape to get clearance from a county human service agency can be devastating. Perhaps the people who make these policies should spend a few days in one of these agencies. A myraid of all receipts and documents are required that many don't have. Do you save all of your household receipts? As a result, time is wasted, time that may ultimately cost the life of a newborn at the expense of a taxpayer.

The WIC program has been very effective for women, infants and children at nutritional risk. It is cost effective in dollars spent on taxes saving $3.00 - $3.50 in hospital costs. But, it is a limited program, providing food and nutrition education to women who enter the program late in their pregnancy. We need to reach these women ideally at conception.

If we as Nutritionists, Physicians, Educatiors, Nurses, Midwives and other Allied Health Professionals joined together and increased public awareness through the media enough new programs would develop, more nutrition education in the schools, more funding would occur and eventually more comprehensive health and nutrition care by qualified professionals would be provided for the pregnant woman of today--for it is their children that will be the future of tomorrow.

Thank you.

Barbara Holland 10/3/85

Barbara Holland, R.D.
Public Health Nutritionist

Testimony of Congressman Charlie Rose
on
S. 1209, a bill to establish the National Commission to
Prevent Infant Mortality
before the Senate Governmental Affairs'
Subcommittee on Intergovernmental Relations
October 31, 1985

MR. ROSE. I would like to thank the distinquished chairman, Senator Dave Durenburger, and Senator Lawton Chiles for inviting me to speak today on the issue of infant mortality.

We are dealing with a very serious problem. In 1983, the national infant mortality rate was 11.2 deaths per thousand live births. My home state of North Carolina had a rate of 13.2, making North Carolina the 5th highest state in infant deaths.

This means that out of every 1000 babies born in my state, 13.2 did not live to their first birthday - and in 4 states and the District of Columbia this death rate is even higher.

It is inexcusable that we live in one of the wealthiest and most technologically advanced nations in the world, yet continue to have more babies die than almost any other developed nation. We are ranked behind nine European countries and Japan, Canada, Australia, Singapore, and Hong Kong.

There is no question that the main cause of infant mortality is low birthweight stemming from a lack of adequate prenatal care and teenage pregnancy. If the problem of low birthweight is to be addressed, then we must find ways to provide more and more women with adequate prenatal care, and reduce teenage pregnacy.

In North Carolina, a concerted effort in these two areas has recently been initiated on the part of state and local government. In its last session, the North Carolina Assembly approved more money for health departments to expand prenatal care and other medical services.

The Assembly also set up an Adolescent Pregnancy Advisory Board to distribute grant funds for innovative programs to prevent teenage pregnancy, and where teenagers do get pregnant, reduce their chance of having a low birthweight baby.

In fact, a county health department in my district has already applied for one of these grants. I am pleased by this commitment by North Carolina to address the infant mortality problem, but I think we need a well-thought out and well-organized national policy such as S. 1209, which will establish a National Commission to Prevent Infant Mortality.

I applaud Senator Chiles and Senator Bentsen for introducing this bill. Representative Mickey Leland, Representative Bob McEwen, and I have sponsored equivalent legislation in the House.

A national commission will provide a much-needed comprehensive plan of action to fight infant mortality. This commission will come up with a national policy that the federal government, states, localities, and private groups can adopt to prevent infant deaths.

This national policy would include legislative recommendations to Congress as to the most effective ways to fight infant mortality.

This is important because Congress and the Adminstration must place a greater emphasis on the problem of infant mortality if we are to win this fight. Current federal programs such as Medicaid and Women, Infants, and Children - the WIC program - that help provide prenatal care to mothers have recently been attacked in efforts to reduce government spending. This is unfortunate because it is much cheaper in the long run to provide adequate prenatal care so that American mothers will have healthy, normal weight babies.

Over $1.5 billion is spent every year to keep low birthweight babies alive. And if the low birthweight child is permanently handicapped, the later costs of addressing that child's needs will be even greater.

This a classic case where a ounce of prevention is worth a pound of cure - it is much more cost effective to prevent low birthweight, than to have to deal with its consequences.

Mr. Chairman, thank you again for asking me to testify today. I appreciate your having hearings on this important matter, and I look forward to the establishment of the National Commission to Prevent Infant Mortality.

LEON E. PANETTA, CALIFORNIA,
CHAIRMAN

DAN GLICKMAN, KANSAS
HARLEY O. STAGGERS, JR., WEST VIRGINIA
JERRY HUCKABY, LOUISIANA
TONY COELHO, CALIFORNIA
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MINORITY CONSULTANT

HEARING OF THE SUBCOMMITTEE ON INTERGOVERNMENTAL RELATIONS
OF THE SENATE COMMITTEE ON GOVERNMENTAL AFFAIRS ON S. 1209
STATEMENT BY CONGRESSMAN LEON E. PANETTA
October 31, 1985

Recent statistics on infant mortality and low-birth weight rates show some discouraging trends. While I do not pretend to be an expert in analyzing this data, I am interested in implementing prevention and intervention strategies that will keep more infants alive during the first year of life and beyond. I applaud the efforts of Senator Chiles to create an independent Commission to study and recommend ways for regaining progress in reducing infant mortality and low-birth weight for every sector of our population.

Provisional 1984 data released by the National Center for Health Statistics a few weeks ago has me a bit troubled. While we are continuing to see a drop in the rate of infant mortality from 10.9 (deaths per 1,000 live births) in 1983 to 10.6 in 1984, this decrease is slight compared to previous years. While the number of infants surviving in the first 28 days of life is better than in prior years, this news is off-set by a decrease in life expectancy during the post-neo-natal stage between 28 days and a child's first birthday.

Some experts have suggested that new technology and vastly improved neo-natal care have prolonged the life of fragile and underweight newborns. Others, including the Southern Governors Task Force on Infant Mortality, suggest that inadequate food or sanitation, unsafe housing and lack of infant health services are key factors in assuring infant survival beyond the first year. But, identifying the causes of infant mortality independently can be a difficult task.

Information about infant mortality and low-birth weight rates suggests that their causes are a confounded web of inadequate prenatal care, maternal smoking or alcohol consumption, poor nutrition, maternal age, insufficient weight gain, and -- almost universally among the studies conducted -- poverty.

On September 26, 1985, at a hearing of the House Select Committee on Hunger, Massachusetts State Health Commissioner, Dr. Bailus Walker, estimated the extent to which poverty affects pregnancy outcome. When I asked him how many infant death certificates reflect conditions of poverty. Dr. Walker said: "If we really examined each infant death as we examine airplanes when there's a crash, if we really tease out the causative factors, 75 percent of those would be identified as poverty."

In 1983, black infant mortality was almost twice as high as that for whites -- at a rate of 19.2 deaths per thousand compared to 9.7 for whites. Correspondingly perhaps, the poverty rate for blacks in 1983 was 35.7 percent, as compared to 12.2 percent for whites. More shocking still is the fact that over 50 percent of black children under age six live in poverty.

A preliminary report by the Public Voice on Food and Health Policy released in September depicted significantly higher trends of low birth weight and infant mortality in our nation's 85 poorest rural counties than for the rest of the country. In these counties, at least 33 percent of the households subsist at or below the national poverty level. Yet, somehow, despite our national nutrition programs, these counties evidence a significant lag behind others in obtaining benefits.

I can't help but believe there is a very fundamental correlation between infant health and mortality and the level and adequacy of nutritional intake. In my work as Chairman of the Subcommittee on Nutrition and on the House Select Committee on Hunger, I have received hard, cold evidence of increasing hunger and malnutrition among low-income Americans across the nation. So, I am not surprised by the slack in our progress toward lower infant mortality and low-birth weight rates. Rather, I am made more determined by them.

Let me share some of the information I have received in recent hearings that might establish the link between nutrition and child health. While not all of this evidence is directly related to infant mortality, I believe these examples are relevant to further examination of this issue.

In October, 1983, Dr. Agnes Lattimer, Director of the Ambulatory Pediatric Division of Cook County Hospital reported high incidence of children at nutritional risk in the Chicago area. In a pilot study of 325 children under age two, one-third were found to be falling under the 10th percentile in growth. In about half of these cases, "failure to grow" was attributable to nutritional deficiencies.

In February, 1985, Dr. Deborah Frank, Director of one of several Growth and Development Clinics in Massachusetts documented a steady increase in the number of children exhibiting physical evidence of growth decline as a result of chronic malnutrition.

In March, 1985, Carlene Jordan, an Oklahoma nutrition education specialist serving low-income families told the Subcommittee:

> "This year in Muskogee County, we will reach approximately 500 families. And we find that malnutrition and hunger are very prevalent among those families. We see a large number of children and women with anemia.
>
> I have observed a higher than normal incidence of disease and illness and as a result, we have children that miss school often, we have wage earners that are absent from work more often. Sometimes the school lunch is the only balanced meal a child will get for the day."

The July, 1985 Southern Governor's Task Force on Infant Mortality unequivocally supports this testimony. The Task Force concluded that:

> "The quality and quantity of food consumed by the mother is a critical preventive factor. Inadequate nutrition may account for as much as 57 to 65 percent of low birth weights. Poor nutrition before and during the prenatal period and in infancy can also lead to anemia in the mother and/or infant, as well as stunted physical and cognitive growth in the child."

Perhaps the most discouraging aspect of our search for causes is that we come up with more and more indicators of our failures than our successes. Let me explain what I mean by illustration of the WIC program.

> Studies of the WIC program show that it is cost-effective. For every $1 invested in the pre-natal component of WIC, $3 in short-term hospital costs are saved.
>
> Data collected for the yet-to-be released National WIC Evaluation Survey may show there is a relationship between WIC participation and significantly lower fetal mortality.

By any measure, WIC seems to be providing the necessary dietary supplementation to make a difference in the development of participating infants and children. So why do I say that closer inspection may lead us to recognize our failures if WIC is serving over three million pregnant women, infants, and children today? Primarily because we need to ask who is getting WIC today and who is not. Currently, only one-third of the WIC-eligible population is being served. My suspicions that WIC and other nutrition programs may not be reaching as far and wide as they might are reflected in the discouraging statistical trends for the general population.

These trends suggest a grim picture of an inadequate nutritional base for many low-income families. This situation has served as the major impetus for our successful efforts in the House this year to improve food stamp program benefit levels so that poor families can eat a minimally nutritious diet. I urge Committee Members to acknowledge the relationship between nutrition and health -- between an adequate diet and positive pregnancy outcome. By supporting improvements in the food stamp and commodity distribution programs contained in H.R. 2100, the Food Security Act as passed by the House, we can make progress in providing a minimum, nutritional base for needy Americans. This, in turn, alllows supplemental feeding programs like WIC to be all that more effective.

As Chairman of the Nutrition Subcommittee, I have visited dozens of soup kitchens and feeding centers in metropolitan and rural locations around the country. In the past two years, the documented demand for emergency feeding assistance is up 100-200 percent in many areas. This year, I have been startled by the numbers of families -- mothers and children -- waiting at these emergency sites for food.

From this perspective, I implore the Committee and sponsors of S. 1209 and H.R. 3344 to consider how to bring about a positive change in infant mortality and low-birth weight rates over the long-term. First, I ask that the Commission recognize that there is a serious hunger and malnutrition problem in the United States today. Second, I ask that the Commission include nutrition as a key focus of its analysis and recommendations not only by looking to those who have been served by current nutrition programs, but by reaching out to those who have not.

THE BETTER BABIES PROJECT, INC.
1717 Massachusetts Avenue, N.W. • Suite 403 • Washington, D.C. 20036 • (202) 387-0900

The Better Babies Project

The Better Babies Project, Inc. is a nonprofit corporation sponsoring a public-private partnership research effort to reduce the incidence of low birthweight (associated with increased infant mortality, serious illness, permanent mental and/or physical handicap, and developmental delay) in a high-risk geographic area of Northeast Washington, District of Columbia. 31,000 people live in the area; they have about 500 babies a year; between 14 and 15 percent are born weighing under 5.5 pounds.

A team of 13 persons working out of a service center in the target area is attempting to identify as many pregnant women in the area as early as possible in their pregnancies. Women are linked as necessary with existing medical, social, and health services. Women are encouraged to begin prenatal care early, to improve the frequency and total number of their prenatal visits, to improve their adherence to health and medical advice, and to participate as needed in specific interventions designed to reduce prematurity, reduce smoking, alcohol use, and drug use, and ameliorate social stress. Services are one-to-one and based on each participant's specific individual needs.

The National Institute of Child Health annd Human Development (NICHD), of the National Institutes of Health, is gathering extensive data on the effort to see whether or not it is effective in reducing the incidence of low birthweight. The project is a community-based effort, and its effects, if any, will be measured on the total population of the community. Definitive data will not be available before 1990. The attempt has significant public policy implications because low birthweight is the major risk factor for the relatively high infant mortality rate in this country and because of the high cost of neonatal intensive care for low birthweight infants--roughly $2 billion dollars a year in this country.

The collaboration involves the District of Columbia Government; NICHD; two private voluntary agencies who are delivering services under contract to the Project (the Visiting Nurse Association of Washington and The Family Place, Inc.); seventeen local and national foundations and corporations who have so far contributed over $1.1 million dollars to the effort; numerous private citizens and groups, including health care providers and social service agencies; and--most important of all--the residents of the target area.

Joan Maxwell, President
October 23, 1985

Officers and Directors
LaSalle D. Leffall, Jr., M.D., *Chairman* • Joan Maxwell, *President* • Karen Hastie Williams, Esq., *Secretary*
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NATIONAL
PERINATAL
ASSOCIATION

National Headquarters, Suite 3A
1311A Dolley Madison Blvd.
McLean, Virginia 22101

(703) 556-9222

TESTIMONY

from

THE NATIONAL PERINATAL ASSOCIATION

to

Subcommittee on Intergovernmental Affairs

October 31, 1985

Washington, D.C.

(requested to be submitted as written testimony to the record)

NATIONAL
PERINATAL
ASSOCIATION

National Headquarters, Suite 3A
1311A Dolley Madison Blvd.
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(703) 556-9222

The National Perinatal Association is an organization comprised of members of existing multidisciplinary regional or state perinatal organizations and an at-large caucus. The National Perinatal Association and its member organizations are dedicated to promoting perinatal health through fostering delivery of optimal care, education, research., and ordering of national priorities.

Because of our multidisciplinary focus, we look at the broad picture of the perinatal client, including the family and the society in which that client lives, and not just a medical history or a diet. The Commission proposed by Sentor Chiles appears to take a similar perspective, looking at the broad federal picture without focusing solely on one program or one statistic. This is an idea whose time has come, and we commend Senator Chiles and his co-sponsors for taking the lead in this important endeavor.

Infant mortality is a topic that many peple are very uncomfortable discussing. It is not a happy topic. It is a topic that causes distress to parents, to health care professionals, and to society. It is a drain on our emotional and financial resources because high risk infants who survive often need a lifetime of support.

Yet the topic is a hopeful one. Many federal programs are in place that do so much for mothers and infants. But they are by-and-large fragmented, poorly integrated, and insufficiently implemented. You, as policy makers, might say to each other, "What can I do about this problem? It is something that the health care practitioners of our country should handle." To the contrary, this is a problem that policy makers could and should handle because so many of your decisions have a tremendous impact on how the health care practitioners can take care of those in need of preventive and comprehensive perinatal services.

The eligibility levels for WIC, the restrictions under Title V Maternal and Child Health Block Grants, the crisis in malpractice, expanding the benefits under the Medicaid program, the creative use of EPSDT, the need for outreach, education, coordination of existing services...these are all areas upon which policy makers have an impact. We need a Commission such as the one Senator Chiles has proposed to look into ways of streamlining and expediting the existing maternal and infant health services and identify where gaps in service or eligibility could be closed.

The National Perinatal Association believes that health is influenced by all factors in the human life cycle which affect the well being of the family from prior to conception through the next generation. The National Perinatal Association respects the rights of each individual to a wholesome, full life, and believes that all newborns are entitled to appropriate quality care. Accordingly, National Perinatal Association believes that there is a need to ensure and support equal access to high quality, cost-effective care for all pregnant women and newborns, and that this care must constitute a full and appropriate complement of health and social services regardless of financial or other barriers. This care should be accessible, acceptable, available, continuous, of high quality, and of reasonable cost. National Perinatal Association further believes that quality preventive and comprehensive services should be a national priority. Not to address it means loss of lives and human productivity that are critically important for our country, not to mention the drain on our country's dollars to care for those high risk women and infants whose tragic outcomes could be prevented.

The National Perinal Association with its 6,500 members fully supports S1209, and urges its speedy passage. The National Perinatal Association offers its assistance in any way possible to the Commission as it goes forward in carrying our its goals.

EXECUTIVE RESIDENCE
NASHVILLE, TENNESSEE

October 28, 1985

The Honorable David S. Durenberger
United States Senate
Washington, D.C. 20510

Dear Senator Durenberger:

Rae Grad with the Southern Governors' Association has notified me about the upcoming hearings on the proposed National Commission on Infant Mortality. Although I would very much like to testify before these hearings, I am unable to do so because of previous commitments. I did want you to know, however, that I am most interested in your work and extremely supportive of your proposals.

We have worked very hard in Tennessee to focus attention on the problem of infant mortality, as well as on related maternal and child health issues. We have seen the positive results that can occur when government representatives, interested citizens, and professionals from a variety of disciplines pool their ideas and energies to address these problems and solutions to them. Our Governor's Healthy Children Initiative, led by our Governor's Task Force on Healthy Children, has been a major success in Tennessee both in decreasing our infant mortality rate to the lowest it has ever been and in building support for child health programs. A national effort to address the infant mortality issue could surely produce similarly beneficial results.

October 28, 1985
Page 2

Please let me know if you would like written testimony or other support documents from Tennessee. I congratulate you for your efforts to focus public attention on the important issue of lowering our national infant mortality statistics.

Sincerely,

Honey Alexander

Mrs. Lamar Alexander

MLA/ls

cc: Senator Jim Sasser
Senator Al Gore

Center for Life
of Providence Hospital
1150 Varnum Street, N.E. • Washington, D.C. 20017 • (202) 269-7439

November 7, 1985

Senator Dave Durenberger
154 Russell Senate Office Building
Washington, D.C. 20510

Dear Senator Durenberger:

On behalf of Providence Hospital and the Center for Life, thank you for the honor of hosting the Intergovernmental Relations subcommittee meeting on infant mortality last week. I have been out of town since the hearing day, and today is the first opportunity I have had to write so I apologize for the delay in sending to you a formal note of gratitude for bringing this very significant meeting to Providence.

As I listened to the various witnesses and to the very able commentary which you and Senator Chiles provided, I was impressed by the way in which the hearing reinforced the need to expand the kind of affordable prenatal and delivery care which the Center for Life provides. As we mentioned in our testimony, CFL gets 2,000-plus inquiries every year and can subsidize only 300-350 mothers. The demand for our services is so great that very often we must delay the mother's entry into our program for 6 weeks or more lest we overwhelm the medical staff in our OB/GYN Center. This means that many women who call us at the end of their 2nd trimester never get into our program because the delay in beginning their prenatal visits would leave too little time for physicians to become familiar with their case before the time of delivery, thus creating an unacceptable level of medical/legal liability.

Senator Durenberger, I also want you to know that we are working hard at raising financial support from the private sector to fund the Center's activities. This year, for example, the Center will raise nearly $150,000 (60% of operating costs) through a multitude of activities ranging from attic sales to opera benefits, and next year's goal is over $250,000. In addition, our Board of Trustees has personally funded a $1,000,000 long-range endowment program based on a unique life insurance instrument. Finally, the hospital's 125th anniversary celebration next year will highlight our maternal care efforts and a special Adopt-a-Life program will be launched which will help underwrite the charity care for the Center for Life's reduced-fee maternity program.

But even with this intensive effort, the need still far outstrips the demand. So, it is essential that government take a wider role in assisting hospitals and Centers like ours to carry the burden of providing essential prenatal care for mothers and their unborn children, people who are certainly among the most vulnerable in our society. There are compelling ethical and humanitarian reasons for doing this. And, as several witnesses at the hearing pointed out, there are compelling economic and practical reasons as well.

Senator, we are deeply grateful to you for honoring us with your presence on October 31. Within our resources, we are committed to continue providing adequate prenatal care for every woman regardless of her social or economic status. We look with hope to you for your continued, dedicated leadership in setting before Congress, the Administration and the country the critical need for the financial support which agencies like ours must have to continue and to expand these vital services.

I would appreciate having these comments included in the record of the hearing, if that is appropriate and possible. Again, thank you for your encouragement, your support; and, most of all, for your firm commitment to the dignity of human life.

Sincerely,

Bob Hutson

Robert A. Hutson
Executive Director

RAH:rl

Governor's Task Force On Healthy Children

Members
Honey Alexander
Chairman
Nashville
F. O. Adebonojo, M.D.
Nashville
Michael Cook
Chattanooga
Daphene Coppinger
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Ann P. Duncan, R.N., M.P.H.
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Karen Edwards, Ph.D.
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Henry W. Foster, M.D.
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Charles E. Gentry, ACSW
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H. Carl Haywood, Ph.D.
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Bobby Clark Higgs, M.D.
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Mai Belle Hurley
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Robert Kirk, Ph.D.
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Steve Kruse
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Tennessee Department of Education
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Mental Retardation
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Mary Ann Smith, Ph.D.
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Ann Tidwell
Nashville
Terry A. Wallace
Chattanooga
R. Sid Wilroy, Jr., M.D.
Memphis
James E. Word
Commissioner
Department of Health and Environment
Nashville

December 2, 1985

Ms. Mary Peterson, Chief Clerk
Subcommittee of Intergovernmental Relations
437 Hart
United States Senate
Washington, D.C. 20510

Dear Ms. Peterson:

This letter is to provide you with a Tennessee perspective regarding S. 1209 and the need for a national policy to deal with the problem of infant mortality. Although infant mortality has declined dramatically over the past few decades in Tennessee and in the nation as a whole, the current rate of infant deaths, especially in the nonwhite population, is unacceptable. I am aware of our country's standing among other industrialized nations, and I am concerned about the fact that we seem to be losing, rather than gaining, ground. In 1982, for instance, there were 16 countries with infant mortality statistics that were better than ours; just 30 years ago, there were only six.

There are many reasons why infant mortality is an important matter for public concern. An examination of infant mortality trends tells us not only about the health status of mothers and children, but also about the overall quality of life in a society. Infant mortality can be considered a "proxy" for measuring a nation's success in assuring appropriate educational and health services for its citizens, as well as addressing the problems associated with poverty. It is thus a significant topic for public interest and attention, and one which merits national involvement.

Because our infant mortality rates in Tennessee, like those in other Southern states, are higher than the national average, we are especially concerned about finding ways to address this problem. In our state we have demonstrated that focusing public attention on the problem and implementing broad-based solutions can have dramatic results.

During the past five years my husband, Governor Lamar Alexander, has launched two major statewide initiatives that are already having a significant impact on our infant mortality statistics. The Better Schools Initiative is aimed at long-range improvements in the quality of public education and in the percentages of Tennesseans who graduate from high school. The Healthy Children Initiative is focused on preventing children's health problems through an array of prenatal and infant care services, as well as through a concerted effort to raise public awareness about child health issues and to build networks among public and private health providers so that child health problems can be addressed more effectively.

Our Governor's Task Force on Healthy Children, which I chair, has worked to establish a statewide $3.6 million Prenatal Program to provide access to prenatal care in all 95 counties of our state. We have also built a statewide $2 million Infant Follow-up Program to assure appropriate care for children born with special risk factors or handicaps. Our Infant Follow-up Program includes a special collaborative effort with private physicians across the state to provide "medical homes" for Tennessee children. To date, over 400 private physicians are involved in this effort. Next year we will inaugurate a $1.5 million School Health Program to provide health services and health education to our school children.

Other government programs we have launched include special child abuse prevention programs and special preschool programs. We have emphasized our family planning, perinatal, genetics, immunization, and nutrition programs as part of the total effort.

In addition, we have carried out seven major public awareness campaigns focusing on topics such as prenatal care, good nutrition, and teen pregnancy. All of these campaigns have involved widespread television and radio announcements, brochures, posters, and special events. These campaigns have been most successful in communicating important messages to broad and varied Tennessee audiences and in building support for child health programs.

All of these efforts illustrate that government can have a powerful effect on infant mortality statistics when a concerted attack on the problem is made. Our infant mortality rate among Tennessee residents last year (11.8) was the lowest ever, and provisional data for this year indicate that this trend is holding.

Infant mortality, in summary, in an important public policy issue that is responsive to public policy solutions. I believe that a national policy on infant mortality, together with state-specific implementation strategies, can yield significant benefits for our country and for its youngest, most vulnerable, citizens. I congratulate Senator Chiles and the Subcommittee on Intergovernmental Relations for investigating this issue, and I offer my support and encouragement to those seeking to find new answers to this difficult problem.

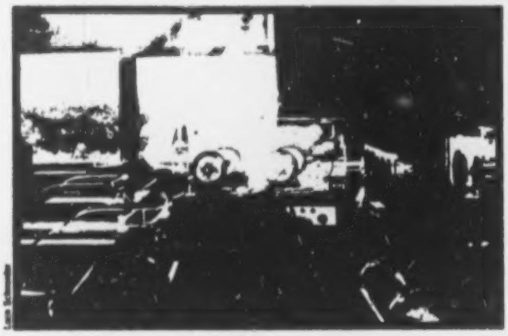
Sincerely,

Honey Alexander

Mrs. Lamar Alexander

SB/HA/vm HSA#30

The babies who never come home



You may be shocked to learn that a baby born in Singapore has a better chance of living to its first birthday than one born in the U.S. Why are thousands of infants perishing needlessly in the world's richest nation?

On an icy February morning last year, a very frightened Caroline Nelson* was rushed by ambulance to a hospital near her home in central Illinois.

She had first begun to feel labor pains that dawn—two months before she was supposed to. And by the time she was wheeled into the delivery room, the contractions were coming too fast for the worried doctors to stop them. In little less than an hour, the baby she and her husband, Mark, had prayed for was born—a little girl weighing two pounds six ounces, whose arms were little bigger than an adult's finger and whose skin was so translucent that you could see her blood vessels through it.

Like many premature infants, she suffered from severe hyaline membrane disease, and while neonatal experts struggled to save her, the infant's fragile lungs just couldn't sustain life for long. A mere seventy-two hours after she was born, the tiny figure in the tangle of tubes and wires died of respiratory failure.

Why didn't Caroline's obstetrician detect signs of trouble and possibly prevent premature labor? Because Caroline never saw a doctor while she was pregnant. With Mark suddenly out of work and with no health insurance, she simply couldn't afford to do so.

"In the hospital I cried constantly," says Caroline, fingering a locket that contains a picture of her premature daughter. "Mark tried to soothe me, but I knew that, deep down, he was really crying to himself."

Today, she and her husband bear not only the sorrow of their loss but also a tremendous burden of guilt and anger. They realize now that with obstetrical care, an infection Caroline developed during pregnancy could have been detected and treated with antibiotics, and she probably would have carried her baby to term. But at the time, the fair-haired twenty-six-year-old just hadn't understood how important prenatal care is. When the coal mine in which Mark worked shut down, the couple had panicked over the state of their finances and decided that a doctor was a luxury, not a necessity. "When you have practically no income and you don't feel sick, the last thing you spend money on is a doctor," Caroline says.

Tragic as their experience was, Mark and Caroline Nelson are typical of thousands of financially strapped young couples who fall through the cracks of the medical system each year. Because of a lack of information, a paucity of low-cost services and a quantity of red tape, too many women in this country simply do not get the kind of *(continued)*

The Nelsons' names have been changed to protect their privacy.

By Arlene Fischer and Katherine Barrett

prenatal care they need. And with little or no prenatal care for the mothers, babies are three times as likely to die.

The result is that the United States, one of the richest and medically most sophisticated countries in the world, has a shameful record for infant mortality. This is where other countries send their sick children, where patients come for the finest in medical care. Yet we rank an appalling eighteenth in a comparison of infant death rates with other industrialized nations. Judging from the statistics on infant mortality—which include the death rates for infants from birth to one year—babies have a better chance of surviving in Singapore or Hong Kong than they do here.

In 1983, we lost 10.9 infants per 1,000 live births, compared with 13.8 in 1978. That's a welcome decline. But there are cities in this country where the infant mortality rate actually went up during those years—places like Milwaukee, Birmingham, Pittsburgh, Richmond, Jersey City, Philadelphia and Louisville.

What are we doing wrong? Why are we losing more than forty thousand babies a year in a country that has one of the most advanced health-care systems in the world? "You're looking at a lot of problems involving public health care, the economy and social attitudes, and they all aggravate one another," says Dr. Luella Klein, president of the American College of Obstetricians and Gynecologists. She points out that the leading causes of death for infants are premature delivery and low birth weight (under five and a half pounds). In fact, of those who die, nine out of ten are premature or small for their gestational age.

That's not to diminish the progress that's been made in recent years in saving premature infants. Today, even those below two pounds frequently survive (at a cost of $1,000 a day in neonatal intensive-care facilities). But research has long shown that a much more efficient method of reducing infant mortality would be to reduce the number of premature and low-weight births. In this area, there has been little progress. Some 240,000 low-birth-weight babies are born every year, and the rate of premature births has not changed significantly since the 1950s.

This is particularly tragic since the solutions to the problem are well known. "There's nothing magical about what it takes to reduce infant-mortality rates," says Jeffrey Taylor, chief of the Division of Maternal and Child Health at the Michigan Department of Public Health. "We've known most of the answers since the 1920s, but we haven't had the political and social will to put the solutions into effect."

Indeed, we continue to learn more each year how important nutrition is to a pregnant woman and why she must stay away from alcohol, cigarettes and many drugs. We know that drugs called tocolytics can be used to stop early labor if it's detected soon enough, and we know that a high-risk mother can be taught to recognize signs of early labor so she can get help. When a program to do this was implemented at the Medical Center of the University of California at San Francisco between 1976 and 1979, there was a 64 percent reduction in premature births.

And yet, these great medical strides make little difference when people don't have access to medical care—either during pregnancy and delivery or after the baby's birth. The high rate of infant mortality is not a medical problem so much as a social and economic one in this country, and there are certain groups who bear the brunt of it. Black babies die at twice the rate of white babies. But the problem reaches beyond poor black families in urban ghettos or the rural South. The victims are also the newly poor—young couples, like the Nelsons, who are hit by unemployment. "Typically, when you become unemployed you lose your health insurance after thirty days, and you're still not poor enough to qualify for Medicaid," says Taylor. "There are terrible problems in obtaining prenatal care."

Shockingly, sometimes there is difficulty as well in gaining admission to a hospital. Jana and Bob Lemley are one couple who believe that economic considerations may have caused their baby's death.

Delivered prematurely at Gulf Coast Hospital in Baytown, Texas, the infant, weighing under two pounds, needed the kind of sophisticated intensive care that the hospital was unable to give. Doctors frantically tried to find a place for Christopher Lemley at hospitals in Beaumont, Galveston or Houston—hospitals that had the facilities to save the baby's life—but to no avail. Five crucial hours passed before Jana's pediatrician finally found a place for Christopher 170 miles away at Scott and White Memorial Hospital in Temple, Texas. Nineteen days later the little boy died, succumbing to a major stroke.

Why was there no room at other hospitals on Christmas Day 1982? Hospital administrators claimed that every space was filled, but the Lemleys think the answer is money: Robert Lemley had recently lost his job at an oil company and, with it, his health insurance. "If we could have gotten Christopher into a well-equipped hospital right away, I believe he would have lived and so does my pediatrician," says Jana quietly. "But one by one they turned us away. They knew we had no insurance, and we couldn't guarantee thousands of dollars in advance. They said there was no room. But we found out later that one hospital in Houston had five respirators available. The admitting office said they were reserved for triplets and twins, but the mothers hadn't even gone into labor. The respirators sat there unused for more than two days. They just didn't give Christopher a chance."

Other families, too, have found that they cannot count on compassion to save their children. The Office for Civil Rights of the U.S. Department of Health and Human Services has chilling evidence of desperately sick babies and of mothers in labor being shunted from one hospital to another because the family had no available cash or insurance credentials. Consider these cases from the files of the Children's Defense Fund, a child advocacy group, and the National Health Law Program.

● A woman in labor was turned away from a small Tennessee hospital during a freezing rainstorm. Two local obstetricians refused to deliver her because it was late at night, the weather was bad and she had no money. The woman and her husband, a day laborer who earned too much to qualify for public assistance, had to drive thirty-five miles through the storm to a hospital in Huntsville, Alabama, where fortunately their baby was safely delivered.

● A seriously ill baby in Ohio was referred to a county medical center by a local public clinic. The parents were kept waiting in the emergency room for four hours. The pediatrician on call refused to admit or treat the infant, later saying he "was not going to serve as backup to any free clinic." The infant was finally admitted by another doctor, but died a few hours later.

● In California, a woman in labor was rushed to the emergency room of a hospital, but when a nurse discovered the baby was in breech position, the woman was told that because she had no way of paying for a complicated delivery she would have to go to a public hospital, about an hour's drive away. The baby was delivered feet first in the car on the way. He was not breathing, and though an ambulance was called, resuscitation efforts failed.

● A gravely sick eleven-month-old was taken to a Texas hospital at the advice of a local physician. But the receptionist informed the parents that the baby could not be admitted without a $450 deposit, which they were unable to pay. The hospital administrator later reduced the request to

(continued)

Medicaid if they meet eligibility requirements for Aid To Families With Dependent Children. And it's mandatory that states provide Medicaid during a first pregnancy for women who would qualify after the child's birth.

Such changes will certainly make an important difference. But if we are to reduce infant mortality, several other problems must be addressed as well.

● **Unwilling obstetricians.** Even when a woman has Medicaid, she often has difficulty locating a doctor who will accept it since the payments are so low and the paperwork so involved. In Connecticut, for example, a 1982 survey found that 57 percent of the responding obstetricians and gynecologists refused Medicaid patients. There's also some evidence that because of high malpractice premiums, obstetricians and gynecologists are becoming increasingly reluctant to take difficult cases, and poorer women often present problems. In fact, a 1983 study found that in Florida 18 percent of these specialists had stopped delivering babies altogether because of malpractice insurance rates of up to $35,000 a year. In California, the same study showed that 10 percent of ob-gyns planned to stop. This, of course, puts a heavy burden on public clinics and hospitals, which are already suffering from funding cutbacks.

● **Closed hospital doors.** Although many hospitals are required by the federal Hill-Burton Act to admit emergency patients regardless of their ability to pay, a number fail to do this, says Judith Waxman, managing attorney for the East Coast office of the National Health Law Program in Washington, D.C. Three years ago, the Office for Civil Rights established a policy that a woman must be accepted as soon as it is clear that she is in labor. "But many administrators ignore this unless a patient knows the law and insists on her rights," Waxman says.

The result of these problems is that many babies who could have come into the world healthy are born needing highly expensive medical care. It's not very unusual for care of a premature infant to cost $100,000, and even the average expense is $17,000 to $24,000. The irony of this is not lost on child-care advocates. In fact, in a petition presented by Public Advocates, Inc., to the U.S. Department of Health and Human Services early this year, thirteen associations argued that $361 million in high-tech medical care could be saved each year if simple preventive services were available.

The solution, says Jeffrey Taylor, is to improve maternal nutrition (the government's nutrition program currently serves only about one third of the people who need it), and to educate expectant mothers about drinking, smoking, and taking drugs during pregnancy. It means making sure that women have access to prenatal care and understand the importance of getting it. And it means changing our approach to the problem of infant mortality by increasing spending for preventive programs. "I think in the United States we have always been impressed with high technology. And that is the way we reduced infant deaths in the 1970s," says Taylor. "Today in newborn intensive-care units we can treat babies below two pounds, and still get in many of them a good result. But it's very expensive and very difficult for the parents and children involved. And we do not get a first-class result every time."

Leaning forward intently, he poses the question that has been on his mind since he began studying this issue fifteen years ago. "Wouldn't it make more sense," he wonders, "to opt for the simple, less exotic ways of saving those babies' lives?" **End**

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Infant Mortality in the U.S.

After many years of a steady drop in the infant mortality rate in the U.S. the rate of decline has abruptly slowed. The change coincides with cutbacks in programs for mothers and children

by C. Arden Miller

In 1979 the U.S. Public Health Service established nine infant deaths per 1,000 live births as a goal the nation should be able to meet by 1990. Early last year a Government official testified in Congress that the goal could be met if previous favorable trends continued. In December of that year, reviewing provisional data for 1983 and the first nine months of 1984, the same official acknowledged that the trends were less favorable and that the goal would not be reached by 1990.

The infant mortality rate had been declining steadily for many years, dropping from 47 in 1940 to 13.1 in 1979. The decline continued at an average of 4.6 percent per year until 1983, reaching a rate of 10.9 infant deaths per 1,000 live births. Then, according to the provisional data, the speed of decline diminished markedly, to 2.7 percent (10.6 deaths) in 1984. Although the Public Health Service asserted in May that the goal of an infant mortality rate of nine will still be reached by 1990, the likelihood that it will not be is strong.

What happened? As is usual in complex social issues, a number of possible contributing factors can be cited, and it would be difficult to prove that any one of them by itself tipped the scales. Still, one definite change that took place not long before the rate of decline flattened out was the reduction by the Reagan Administration in the funding of several programs for children, mothers of young children and pregnant women. I and many other observers think these cutbacks have contributed significantly to the change of trend in the infant mortality rate by weakening national policies (which had never been more than marginal) for the care and protection of pregnant women. Senior officials of the Department of Health and Human Services deny the connection. They point instead to such factors as the high rate of teen-age pregnancy, the use of tobacco, alcohol and drugs by many pregnant women and the complex racial mixture of the U.S. population; they also cite the possibility that high-technology medicine is merely postponing the death of some infants who earlier would have appeared in the statistics relating to naturally aborted pregnancies. The Administration has declined a proposal to study the effect of the cutbacks.

The statistic at issue here—the infant mortality rate—is officially defined as deaths (per 1,000 live births) in the first year of life. (More people in the U.S. die then than in any other single year of age up to 65.) Neonatal deaths, involving babies less than 28 days old, account for 70 percent of infant deaths, and two-thirds of the neonatal toll is attributable to low birth weight.

The risk of low birth weight is increased both among black mothers and among women who give birth when they are younger than 16 or older than 35. It is also higher for women who have poor prenatal care or none, whose diet is inadequate and who gain less than 20 pounds during pregnancy. Smoking, abuse of drugs and excessive consumption of alcohol are factors; so are stress, frequent childbearing and previous miscarriages. The relative weight that should be given these factors is not well documented. By far the most impressive correlation is with poverty and minority status. Recent emphasis has been laid too on the adverse influence of cigarette smoking before and during pregnancy.

The postneonatal infant mortality rate (deaths from 28 days through 12 months) is less substantially correlated with low birth weight but is heavily influenced by environmental circumstances that contribute to accidents and contagious diseases. The postneonatal rate is high among populations that have low socioeconomic status, poor sanitation, unsafe housing and limited water supply. It is also high in households where the mother has had little education. The sudden-infant-death syndrome (the abrupt death of an apparently healthy baby) is the largest single cause of postneonatal infant mortality. Recent reports identify a particularly high rate of sudden infant death in households headed by unmarried mothers.

The connection between infant mortality and poverty and related social factors is not a new finding. The Federal Children's Bureau, established in 1912, undertook as its first inquiry the subject of infant mortality. The findings, based on surveys in 10 cities and a number of rural areas, have a familiar ring: "The coincidence of a high infant mortality rate with low earnings, poor housing, the employment of the mother outside the home and large families was indicated in all these studies. They all showed that there is great variation in infant mortality rates, not only in different parts of the United States but also in different parts of the same state and in the same city, town or rural district. These differences were found to be caused by different population elements, widely varying social and economic conditions and differences in appreciation of good prenatal and infant care and the facilities available for such care."

Another parallel with 1912 is concerned with the comparison between the U.S. and other countries in infant mortality. Data from the census of 1910 indicate that the infant mortality rate in the U.S. was 124 per 1,000 live births. Many other nations had better records, but it is noteworthy that the rate was exceedingly high in several countries (including France, the Netherlands, Switzerland and the U.K.) that in later decades came to be among the world's leaders in infant survival.

Since 1910 the record has improved, albeit unequally, in every country. The U.S. has tended to slip down in the ranking of industrialized nations that have acceptable reporting systems and a population exceeding two million. In the 1950–54 period the U.S. was in seventh place, in 1960–64, 11th, in 1970–74, 16th, and in 1982, 17th. Finland and Japan, with rates of 6.0 and 6.6 respectively in 1982, are now the leaders, having passed Sweden.

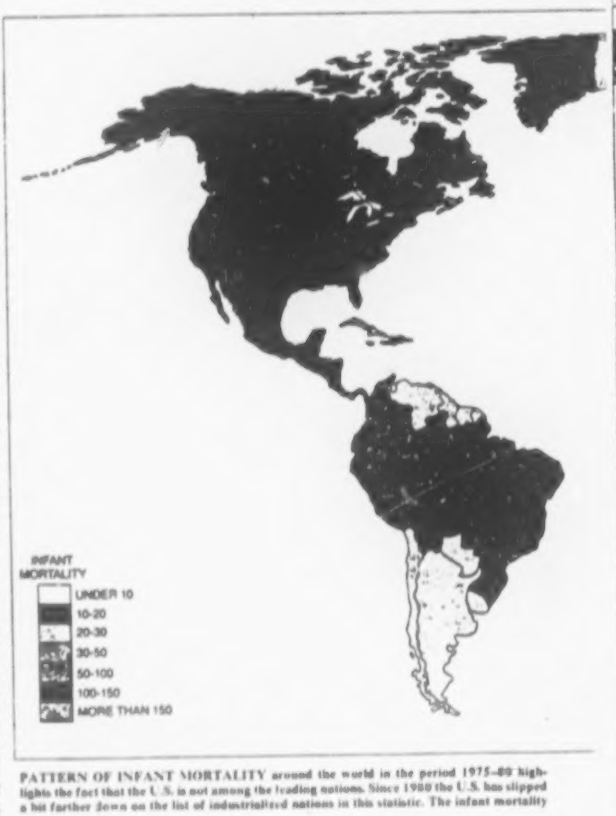
Every nation's social policies derive from its unique cultural traditions; still, the infant mortality figures from other countries help to define more sharply the influence on U.S. statistics of such variables as the age of childbearing, socioeconomic status and participation in health services. One influence that is often cited to explain the relatively high rate in the U.S. is the racial and cultural diversity of the population, but other factors are at work. For example, one can point out that the mortality rate for black infants is twice as high as the rate for whites in the U.S., but one must also account for the fact that the rate for white infants in the U.S. is higher than the rate for European whites of comparable socioeconomic status and national origin.

The major difference between U.S. babies and their age peers in other countries is that U.S. babies are smaller. If one compares babies of the same birth weight (say 2,000-gram babies in the U.S. with 2,000-gram babies in Europe), the differences in mortality disappear. Indeed, the chances for survival among babies of comparable birth weight are even better in the U.S. than they are in countries that have better overall infant mortality rates. The problem is that a disquieting number of newborns in the U.S. (6.8 percent of all babies and 12.4 percent of black babies) weigh less than 2,500 grams (5.5 pounds), the official measure of low birth weight.

The conditions contributing to low birth weight are the subject of study. One of them is either lack of or poor participation in a program of prenatal care that begins early in pregnancy and continues throughout it. Ideally such a program should do a good deal more than monitor the health of the mother and fetus and provide appropriate treatment. It should also include genetic screening and counseling; risk assessment; counseling on the hazards of cigarette smoking, drug use and alcohol consumption; education on and arrangements for delivery; advice on breast-feeding and parenting; enrollment in appropriate programs such as Medicaid and Aid to Families with Dependent Children, and counseling on family planning.

In this context the experience of France is noteworthy. France has recently made impressive advances in reducing the infant mortality rate. Part of that success has been attributed to a scheme of cash payments to pregnant women. The payments serve as an incentive for the women to engage in prenatal care that features early identification of risks and programs of stress reduction.

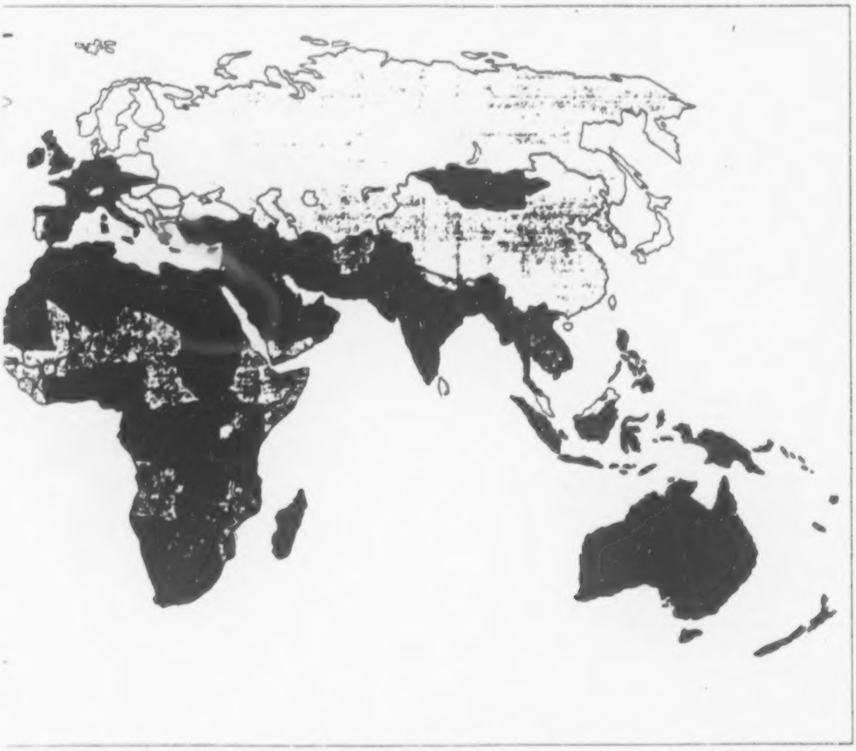
Another factor that is occasionally proposed as a contributor to in-



PATTERN OF INFANT MORTALITY around the world in the period 1975–80 highlights the fact that the U.S. is not among the leading nations. Since 1980 the U.S. has slipped a bit farther down on the list of industrialized nations in this statistic. The infant mortality fant mortality is biological differences among racial or ethnic subgroups in the heterogeneous U.S. population. One need only look at the example of Sweden to be made skeptical of this argument. Sweden, which is consistently among the leading nations in low infant mortality rates, has recently had many immigrants from southeastern Europe, where infant mortality rates are relatively high. The people come for menial service jobs and are generally worse off than other people in Sweden in income and living conditions. Nevertheless, the record of infant mortality among the immigrant families is somewhat better than the record among Swedes. The immigrant women appear to avail themselves fully of the extensive Swedish health services, which include prenatal care. In other nations too the descendants of immigrants tend to acquire patterns of infant mortality more like the ones in the country of residence than the ones in the country of origin.

A careful analysis of neonatal mortality among racial groups was done in 1979 by Richard L. Naeye of the Pennsylvania State University College of Medicine. His finding on perinatal mortality (late fetal deaths—after 20 or more weeks of pregnancy—together with deaths in the first 28 days of life per 1,000 births) was: Orientals 23 per 1,000 pregnancies, whites 34, Puerto Ricans 41 and blacks 51. When the data were corrected for such factors as prepregnancy weight, prenatal care, weight gain, height, work outside the home, cigarette smoking, family income, education and marital status, the so-called racial differences were eliminated or greatly reduced. A small unexplained gap between blacks and other groups persisted, associated with a slightly higher infection rate among black people.

Speculations about racial biological differences as a cause of increased infant mortality should be regarded with great caution, particularly in view of the fact that the survival of black infants has been shown to increase as the



rate is stated in terms of deaths during the first year of life per 1,000 live births. For some years until 1982 the nation with the lowest infant mortality rate was Sweden; the leaders now are Finland and Japan, at 6.0 and 6.6 respectively. The rate in the U.S. that year was 11.5 per 1,000 live births. The map is based on data assembled by the United Nations Secretariat and published by it in 1983.

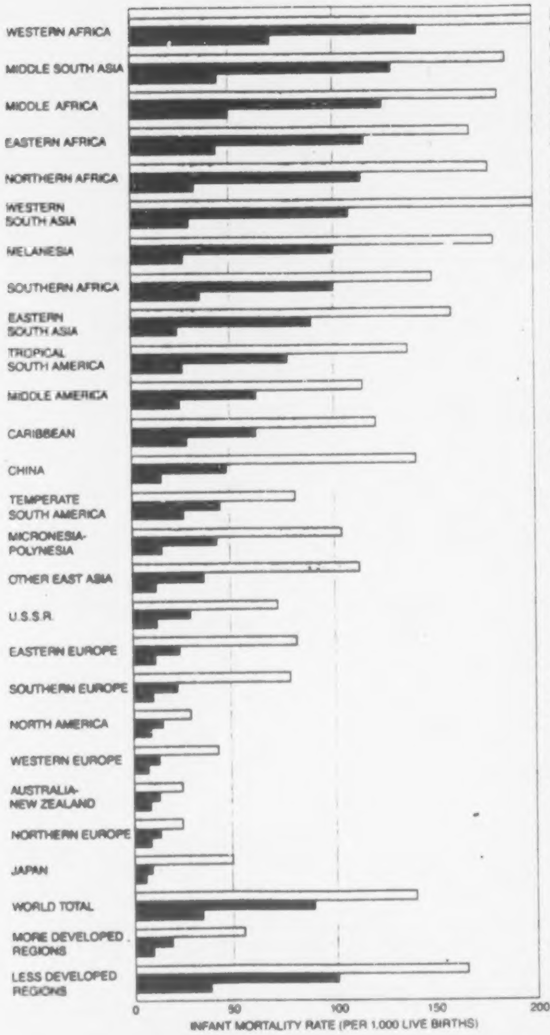
parents improve their socioeconomic circumstances. Important though racial differences may be for people undertaking the statistical analysis of variables, the environmental determinants for the disproportion of infant mortality among blacks appear to provide an ample base for considerations of social policy.

Also deserving skepticism are the easy assumptions that a wealthy nation should have a low infant mortality rate and a poor nation a high one. Among low-income nations in 1981 the rate ranged from 130 (Bangladesh) to 43 (Sri Lanka), among middle-income nations the range was from 120 (Turkey) to 26 (Portugal) and among high-income nations the range was from 130 (Oman) to seven (Japan).

Sri Lanka provides an impressive example of how extreme national poverty does not necessarily entail a high infant mortality rate. The government of that nation tries to make sure that several basic services—education, nutritional supplements, family planning and prenatal care—are provided to all the people who need them. The programs are not necessarily elaborate or sophisticated, but everyone is assured access to them.

The success of this approach in Sri Lanka and some other parts of the world suggests that neglect of people may have a devastating effect on their well-being as measured by the infant mortality rate, and that the situation can be improved by services that are modest in content but ambitious in outreach and coverage. The experience of a few other developing countries and of numerous demonstration projects in the U.S. supports this interpretation.

In the U.S. the period of sharpest decline in the infant mortality rate was the decade of the 1970's. Many influences were at work. Conspicuous among them was the expansion of social-support programs such as Aid to Families with Dependent Children, food stamps and Medicaid and the development of special programs to improve access to maternity-related services. Also at work were changes both upward and downward in the predominant ages of childbearing; a decrease in the proportion of unwanted childbearing through the provision of easier access to family-planning and abortion services; a general improvement in the economy with reductions in the poverty rate; the development of nutritional supplements specifically for pregnant women, and dramatic advances in medical technology for the care and improved survival of infants born at extremely low weight.



REGIONAL PATTERNS for three five-year periods show that the infant mortality rate has declined throughout the world but in an uneven way. The data cover 1950–55 (*light gray*) and 1975–80 (*color*); the chart also includes projections for the period 2020–25 (*dark gray*). The data are from the Population Division of the UN Secretariat's Department of International Economic and Social Affairs as published in the UN's *Population Bulletin*.

As one might expect, few of these factors came with built-in mechanisms for assessing their relative contribution to the decline in the infant mortality rate. That kind of information would be useful in the formulation of public policies to further reduce the rate and to diminish the worsening disparities among different segments of the population. The imprecision of the record makes it possible for experts to put forward quite divergent policies.

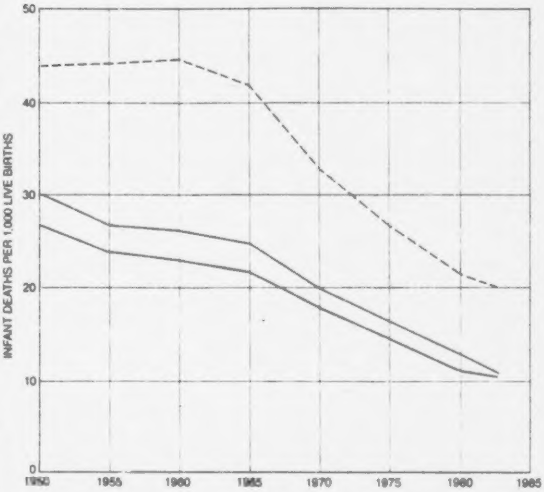
In the absence of statistical data on how different factors independently affect the infant mortality rate it is useful to discuss certain of the influences qualitatively.

Demographic changes constitute one of the influences. Childbearing by unmarried women has increased dramatically (from 2.3 percent to 10 percent of all newborns among whites between 1960 and 1980 and from 21.6 percent to 48.5 percent among nonwhites). Among teen-agers the pregnancy rate is far higher than it is in such other industrialized countries as Sweden, Canada and England (96 per 1,000 in the U.S., 35 in Sweden, 44 in Canada and 45 in England).

Unmarried motherhood carries a high risk against survival of the infant. The reasons are not well documented. If unmarried mothers can be presumed to suffer more than others from stress, arising from such factors as social stigma and difficult economic circumstances, that might be part of the explanation. To the extent that women are without help from social supports such as a loving companion or helpful relatives, that too is a known adverse influence.

Social policy in the U.S. provides few supports for pregnant women and new mothers. Sheila B. Kamerman of Columbia University and her colleagues studied maternity policies for working women in 75 countries, including all the industrialized nations and many of the developing ones. The U.S. was the only one without a law ensuring for working women the basic health services and social supports consonant with the unique developmental and nurtural requirements of pregnancy, childbearing and infant care. Indeed, the policy in the U.S. is to treat pregnancy and childbearing as if they were disabilities. Benefits are provided to such women in the same way and to the same limited extent as they are for illnesses. Even that assurance has prevailed only since 1978, when Congress spelled it out in the Pregnancy Discrimination Act.

It seems plausible that the survival of infants born to unmarried mothers would increase under certain alternative policies. They include better job-related maternity benefits, more accessible perinatal health services, more readily available day care and assured access to services aimed at averting unwanted childbearing.



INFANT MORTALITY RATE in the U.S. has declined steadily since 1950 for both whites (*color*) and blacks (*broken black*) as has the overall rate (*solid black*). The flattening curves in about 1982 reflect a slowing of the rate of decline in infant mortality that began then.

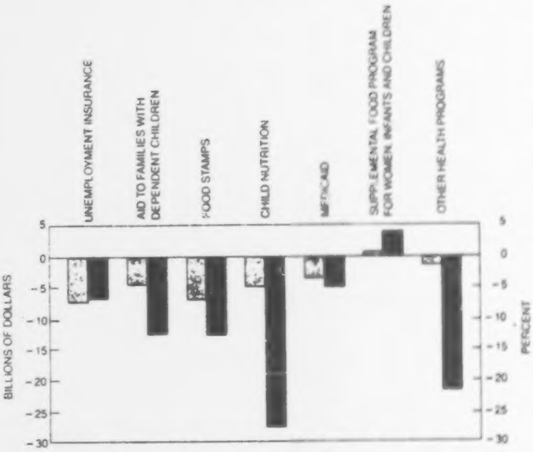
A second influence is provided by services dealing with family planning and abortion. Michael Grossman of the National Bureau of Economic Research and Steven Jacobowitz of Long Island University analyzed a group of programs initiated between 1964 and 1977 in order to measure their relative effect in reducing infant mortality rates. The programs included Medicaid, Maternal and Infant Care projects (Federally funded community programs, often abbreviated MIC, to deliver comprehensive perinatal services in underserved areas), Federally subsidized family-planning services for low-income women, the legalization of abortion and the widespread adoption of oral and intrauterine contraceptive techniques.

What Grossman and Jacobowitz found was that the increase in legal abortions was the single most important factor in reducing neonatal mortality. The second factor in impact was the use of organized family-planning services by low-income women.

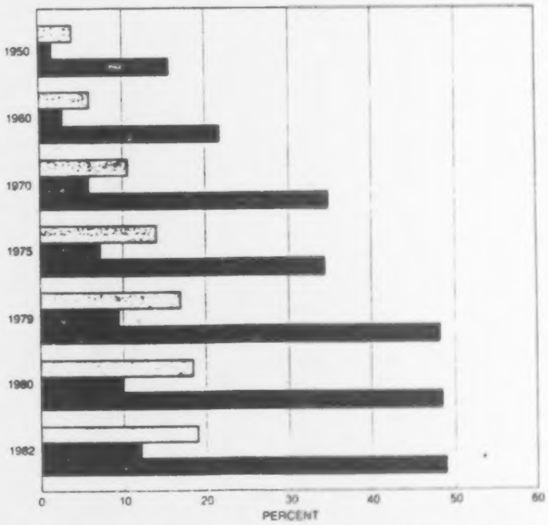
Since then most states have stopped funding abortion. Federal funding of family planning has not increased in real dollars since 1973. Support for both programs has been sharply reduced since 1981. Indeed, the Reagan Administration pursues a policy that attempts to criminalize abortion, with the president himself formally endorsing and pledging "my full support" to three separate legislative initiatives that would overturn the decision by the U.S. Supreme Court in 1973 establishing women's constitutional right to abortion.

A third major influence is poverty. Although the correlation between poverty and high infant mortality rates is undisputed, the best strategies for reducing infant mortality among poor populations are not self-evident. Countries that have had a social revolution (China and Cuba more notably than the U.S.S.R.) resulting in a redistribution of wealth and an emphasis on equal participation in health services show impressive successes in reducing infant mortality. Even better success has been achieved in capitalist nations that have established extensive welfare and health-benefit systems (the examples include the Scandinavian countries, the Netherlands and the United Kingdom).

I have already mentioned the impor-



DECLINING SUPPORT of programs that help pregnant women, infants, new mothers and families with dependent children is reflected in the changes in Federal outlays between 1982 and 1985. They are the result of policies carried out by the Reagan Administration between 1981 and 1983. The changes are shown in dollars (*gray*) and percent (*color*).



RISE IN BIRTHS OUT OF WEDLOCK has also affected the infant mortality rate; for a variety of reasons many infants born to unmarried mothers do not survive. Births to unmarried women as a percentage of all births are shown in light gray. The out-of-wedlock births for whites are represented by the dark gray bars, for nonwhites by the colored bars.

tance of prenatal care. It is noteworthy that the women in the U.S. who get the most and best prenatal care are the ones who are at the lowest risk of losing an infant. For such women the measurable contribution of the care to the survival of the infants may not be highly significant.

Most of the information about prenatal care comes from birth certificates, which record the date of the first visit and the number of visits. In the statistical analysis of these data the care is presumed to be inadequate if it did not begin until the third trimester (the last three months of pregnancy) or consisted of fewer than five visits. All recommended standards call for at least 10 visits and for more than that if special risks are identified. Unfortunately little information is available on the adequacy of care in terms of the content of the visits.

David L. Kessner of the Institute of Medicine of the National Academy of Sciences analyzed data on New York City women and found that social risks (the woman was single, of an unfavorable age or poorly educated) appeared oftener than medical ones. Furthermore, the infant mortality rates more than doubled in the presence of either kind of risk. An important finding was that 75 percent of the risks could be identified in the first five minutes of the first prenatal visit.

The number of American women receiving prenatal care rose during the 1970's, but a gap persisted between blacks and whites. By 1979 some 40 percent of black women were not seen for prenatal care during the first three months of pregnancy, whereas nearly 80 percent of white women were. Overall participation in prenatal care appears to have declined since 1981 in areas with high unemployment or large minority populations.

The strongest influence in reducing infant mortality in recent years has been the growth of programs for care of newborn babies who are at high risk of death. Some 600 hospitals in the U.S. have established units capable of applying the advanced technology now available. About 6 percent of newborn babies are admitted to such units, often having been brought from a distance by special rapid-transport facilities.

For newborn infants weighing more than 1,500 grams these systems have brought about an impressively improved rate of survival, without an appreciable risk of later problems of health or development. For infants weighing less than 1,500 grams the survival rates are also enormously improved, but the long-term prospects for these babies are more doubtful

Several reports indicate that the improved survival of such infants has been accompanied by a relative increase in postneonatal mortality. The observation suggests that elaborate neonatal technology delays rather than prevents some infant deaths.

In a study done for the Office of Technology Assessment, Peter Budetti estimated the average cost of neonatal intensive care in 1978 to be $13,616 per patient. Routine prenatal care has been estimated to cost about $350 per patient. On the basis of these figures a group advocating comprehensive prenatal care for all low-income women has calculated that by providing such a program the Federal Government would save $360 million per year in outlays for neonatal intensive care and the rehospitalization of babies born at low weight.

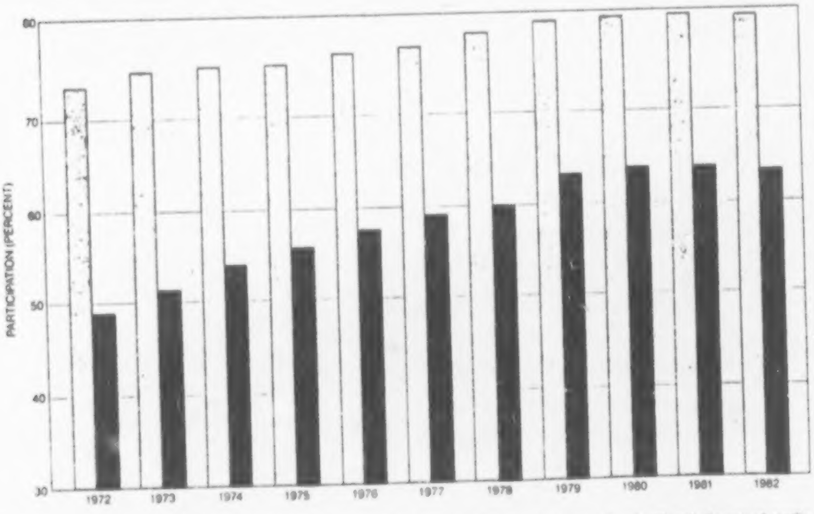
Against this background one can examine the effects of Federal policy on health services relating to infant mortality. For this purpose it is instructive to compare the recession of 1974–75, when publicly sponsored social supports and health services were expanded, with the recession of 1981–82, when programs of that nature were curtailed.

To make the comparison my colleagues and I examined data from a group of eight states that were seriously affected by the earlier recession (Georgia, Michigan, Missouri, Nebraska, New York, Ohio, South Carolina and Virginia) and eight that were not (California, Iowa, Kentucky, Louisiana, Maryland, Montana, Oklahoma and Texas). For each group we analyzed the rates for infant mortality, neonatal mortality and low birth weight for whites and nonwhites in the period 1973–77. We found that infant-health trends improved equally in both groups of states and among all populations. No reversal of favorable trends could be identified.

A strictly parallel analysis for the later recession is not yet possible, but the preliminary data indicate a very different experience. The states hardest hit by the recession reported a decline in the participation of pregnant women in prenatal care, consistent with the loss of Medicaid and insurance benefits and with the curtailment of support for public clinics. A number of states reported a reversal of previously favorable trends for rates of infant mortality and birth weight, particularly among minority populations.

When the Public Health Service established in 1979 the goal of an infant mortality rate of nine per 1,000 live births by 1990, it also proposed some related objectives to be achieved within the same period. One was that the infant mortality rate should not exceed 12 per 1,000 live births for any racial or ethnic group. Another was that low-weight births should constitute no more than 5 percent of all live births, with no racial or ethnic group exceeding 9 percent. A third was that 90 percent of pregnant women would begin prenatal care within the first trimester.

Analyzing reported rates of progress by state, the Children's Defense Fund has concluded that none of these goals are likely to be met by 1990 on a nationwide basis. The means whereby the goals could be met are not mysterious, but they require the implementation of certain public policies that are not even being seriously considered. The means include assured access to comprehensive perinatal care, guaranteed maternity leaves for all working pregnant women and recent mothers, job protection during the leave and cash benefits equal to a significant portion of wages during the leave. These measures can be promoted on the basis of humanitarian concern, social equity, cost-effectiveness and even national security to the extent that it will depend on a coming generation both vigorous and productive.



PARTICIPATION IN PRENATAL CARE beginning during the first three months of pregnancy is a factor in reducing the infant mortality rate. Participation by black women (*color*) is lower than participation by white women (*gray*), although the rate of participation by blacks rose notably in 1976–79. The chart is based on information assembled by the National Center for Health Statistics.

RACIAL AND SOCIOECONOMIC DISPARITIES IN CHILDHOOD MORTALITY IN BOSTON

Paul H. Wise, M.D., M.P.H., Milton Kotelchuck, Ph.D., M.P.H., Mark L. Wilson, Sc.D.,
and Mark Mills, M.A.

Abstract We examined racial and income-related patterns of mortality from birth through adolescence in Boston, where residents have high access to tertiary medical care.

Childhood mortality was significantly higher among black children (odds ratio, 1.24; $P<0.05$) and low-income children (odds ratio, 1.47; $P<0.001$). Socioeconomic effects varied for different age groups and causes of death. The largest relative disparity occurred in the neonatal and postneonatal periods, and the smallest in adolescence. Of the total racial differential in neonatal mortality (6.88 deaths per 1000 live births), 51.2 per cent occurred in premature infants, 13.4 per cent in term infants who were small for their gestational age, and 25.9 per cent in neonates who were both premature and small for their age. Black neonatal mortality was elevated at all income levels. Beyond the neonatal period, mortality from respiratory disease, fire, and homicide had strong inverse relationships with income, and mortality from injuries to the occupants of motor vehicles was directly related to income.

These data suggest that despite access to tertiary medical services, substantial social differentiation in mortality may exist throughout childhood. Equity in childhood survival will probably require policies that emphasize preventive goals. (N Engl J Med 1985; 313:360-6.)

A LARGE literature has documented elevated death rates in lower social classes in the United States[1-4] and elsewhere.[5] These studies have primarily examined mortality in infants,[1,2] adults,[3] or total populations,[4,5] rarely exploring the continuum of effect throughout childhood. Interest in this area has been rekindled by persistent racial disparities in social and economic status and by renewed debate over the effect of social programs on children living in poverty.[6,7] Moreover, the growing recognition of the importance of injuries in childhood mortality has provoked calls for expanded research into the social determinants of childhood trauma.[8]

Mortality during the neonatal period (less than 28 days of age) began to fall dramatically in the United States during the mid-1960s. This decline, which has continued to the present, has often been associated with important advances in the medical care provided for pregnant women and ill newborns. During this same period major technological strides have been made in the diagnosis and treatment of many serious childhood conditions, including infections, diabetes, asthma, cystic fibrosis, kidney disease, and leukemia.[9] These advances, in turn, have been coupled with major efforts to provide access to such care through regional referral and transport systems.

The manner in which these innovations have altered patterns of differential mortality, however, remains poorly understood. In this study we sought to elucidate racial and socioeconomic disparities in mortality from birth through adolescence in the city of Boston. The Boston case is of special interest because of the unusually high access its children have to tertiary health services. According to vital statistics for the period under study, 93 per cent of all births and 96 per cent of all low-weight births to Boston residents occurred in perinatal referral facilities with directly associated Level III neonatal intensive care units. Therefore, trends in neonatal mortality can be studied in a total population with virtually complete and immediate access to intensive perinatal care. The concentration of tertiary pediatric facilities in Boston has led to a

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similar hospitalization pattern for older children residing in the city. According to data collected by the Massachusetts Health Data Consortium, 82 per cent of all nonneonatal admissions of children residing in Boston occurred at tertiary units of major teaching hospitals. Furthermore, admissions to tertiary facilities accounted for 94 per cent of all in-hospital pediatric deaths. Although we make no judgment about their appropriateness, these hospital utilization patterns provide a special opportunity to examine childhood mortality in an area where access to tertiary services is extremely high.

METHODS

Deaths in children from birth through 19 years of age were examined for residents of the city of Boston for the years 1972 through 1979. All information was extracted from computerized files of births, deaths, and linked neonatal births and deaths obtained from the Registry of Vital Events, Massachusetts Department of Public Health. National childhood population and mortality data were obtained from tapes of the 1970 and 1980 national censuses, and yearly vital statistics from the National Center for Health Statistics. Neonatal mortality was defined as deaths of live-born infants less than 28 days of age, with inclusion in the study based on maternal residence in Boston, independent of the location of birth. Births and neonatal deaths were examined by birth weight, race, sex, hospital at which birth and death occurred, gestational age, and maternal factors, including age, parity, education, and census tract of residence. For all other age groups, age, sex, race, cause of death (categories 8 and 9 of the *International Classification of Diseases, Adapted*), and census tract of residence were reviewed. Age stratification consisted of six groupings: neonates, postneonates (28 through 364 days), 1 through 4 years, 5 through 9 years, 10 through 14 years, and 15 through 19 years.

Because no direct information regarding income is currently available on birth and death certificates, an indirect measure of income status was used. Median family income by census tract of residence was used as a measure of economic resources available in the immediate social environment. Median family income for each census tract was detailed in the 1970 and 1980 national censuses. To conform with the eight-year period under study, median family-income values were extrapolated from the base census years. The 146 census tracts of Boston were ranked by median family income and stratified into three groups of ascending income: Group I, $5,941 to $11,035; Group II, $11,115 to $14,529; and Group III, $14,738 to $33,409. Each group was composed of 48 to 49 census tracts, with Groups I, II, and III containing 56,042, 48,848, and 67,353 children, respectively.

The relative contribution of specific factors to neonatal mortality differentials was calculated by means of a standardization model pioneered by Yankauer and Allaway[10] and extensively developed by Williams[11,12] and others.[13] The contribution of factor specific mortality rates to differences between groups a and b was estimated by computing an expected rate for group a, using the factor-specific mortality rates of group b and the actual fractional distribution of group a. When two or more factors were analyzed simultaneously, logistic-regression models[14] were employed as suggested by Paneth et al.[15,16] Birth-weight–specific mortality was computed for 500-g categories. Gestational-age data were available for the years 1975 through 1979 and were based on the reported date of the mother's last menstrual period. The effect of gestational age alone was analyzed by constructing four gestational-age groups, such that the mean birth weight of each group was approximately the same.[17] In analyzing relationships between gestational age and birth weight for different racial and income groups, the percentiles for birth weight according to gestational age reported for California by Williams et al.[18] were used as standards. Neonates below the 10th percentile were considered small for their gestational age. Ninety-five per cent confidence intervals for mortality rates were based on a Poisson distribution and calculated by methods suggested by Foster and Kleinman.[19,20]

Comparison of mortality between racial and income subgroups in all postinfancy age groups was based on age- and sex-adjusted rates. Adjustment was performed by direct standardization techniques,[21,22] wherein the population of all children under 20 years in Massachusetts over the same period was used as the standard. This method applies the age- and sex-specific mortality rates of the studied group to the age- and sex-specific populations for the state as a whole. Rates can then be adjusted and compared with the statewide and national rates. The ratio of the directly adjusted rate to the standard rate, known as the comparative mortality figure,[21] and the associated confidence intervals[22] provide a measure of Boston's mortality experience relative to that of the Commonwealth of Massachusetts and the nation as a whole.

RESULTS

Overall, mortality rates were substantially higher for black and Group I children. If blacks had had the same adjusted mortality rate as whites, then 262.9 of the actual 774 deaths among blacks would not have occurred. Similarly, if the children of Group I had had the same mortality rate as children of Group III, then 282.3 of the 760 actual deaths would not have occurred. However, the effects of race and income varied according to age and the cause of death. The largest relative racial and income differentials were observed in the neonatal and postneonatal groups. A striking convergence of rates for both races and all income groups was noted in adolescence. The relative age-specific mortality risks associated with low income are represented as odds ratios in Figure 1. The contribution of specific age groups to overall racial and income differentials is not only a reflection of relative disparity but also a product of the absolute mortality rates in that category. Figure 2 shows these age-specific contributions to total racial and income differentials, indicating the overwhelming importance of mortality differentials in the first year of life.

Infant Mortality

Between 1972 and 1979, 58,150 births and 776 neonatal deaths were recorded among Boston resi-

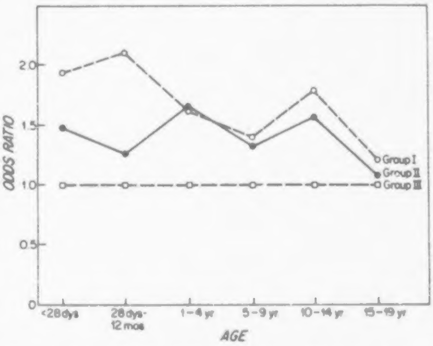

Figure 1. Adjusted Odds Ratios for Childhood Mortality, According to Age and Income Group.

Group III represents the reference group, with an odds ratio of 1.00.

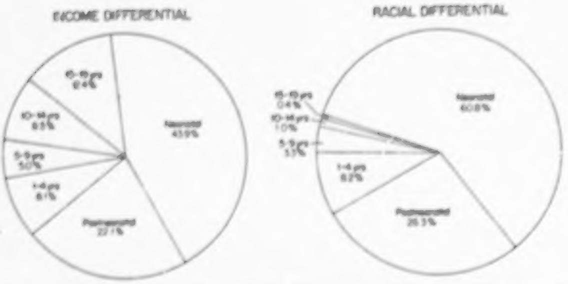

Figure 2. Age-Specific Contributions to Overall Racial and Income Differentials, Expressed as a Percentage of the Total Differential.

The total income differential equals the difference in adjusted mortality rates for children of income Groups I and III. The total racial differential equals the difference in adjusted mortality rates for white and black children.

dents. Between the earlier period from 1969 to 1970 and the period from 1978 to 1979, the mortality rate for white neonates fell from 14.6 to 7.2 deaths per 1000 live births, and the rate for black neonates fell from 21.8 to 15.6. The ratio of black to white rates increased from 1.49 for the 1969-1970 period to 2.17 for the 1978-1979 period ($P<0.05$). When neonatal mortality was stratified by income group, an inverse relationship was noted (Fig. 3). The mortality rate for neonates from the wealthiest group was 42.5 per cent lower than that for the poorest group. For both white and black neonates, mortality was inversely related to median family income. However, excess mortality was evident among blacks in all income groups.

Because the risk of death is strongly associated with birth weight, neonatal mortality differentials can be stratified into differences in birth-weight distribution and differences in birth-weight–specific mortality. As noted in Table 1, the survival of neonates weighing less than 2500 g favored blacks, whereas mortality among neonates above 2500 g showed a reversal of this relationship. Income was not significantly related to birth-weight–specific survival for either race, among neonates weighing less than 2500 g. Above this weight, however, income was strongly related to mortality. Differences in mortality among income groups were primarily due to disparities in rates of low-weight births (111.1 per 1000 live births in Group I and 68.7 in Group III, $P<0.001$). The high relative mortality among blacks was also found to be due primarily to high rates of low-weight births (128.0 per 1000 for blacks and 73.6 for whites, $P<0.001$). During the period under study, birth-weight–specific mortality rates were similar for all hospitals in Boston.

Differential rates of low birth weight may be due to differences in premature delivery, intrauterine growth, or both. Therefore, gestational-age data were analyzed to assess the relative contribution of these factors. Eighty-two per cent of all records contained adequate data for an analysis of gestational age, income, and race. The proportion of deaths occurring in neonates below the 10th percentile of weight for gestational age was slightly higher among blacks (36.1 per cent) than whites (33.3 per cent). Eighty-four per cent of all deaths among white low-birth-weight infants and 82.1 per cent of all those among black low-birth-weight infants occurred in neonates born prematurely (less than 37 weeks' gestation). Table 2 summarizes the data on birth weight for gestational age by race. Seventy-seven per cent of the total racial differential (5.3 deaths per 1000 of a total difference of 6.88 deaths per 1000) occurred in premature neonates. The remaining 23 per cent occurred in term infants. Almost 40 per cent of the racial differential occurred among neonates below the 10th percentile. Logistic-regression analysis was used to assess the importance of other demographic factors in determining racial and income differentials. The distribution of maternal age, parity, and the dyad of maternal age and parity made only small contributions to differential mortality between racial and income groups. The mother's highest year of education varied with income and did not make a significant contribution once income was assessed.

For the period under study, 266 postneonatal deaths were recorded among Boston residents, resulting in a postneonatal mortality rate of 4.6 per 1000 live births. Postneonatal mortality was 6.1 for blacks and

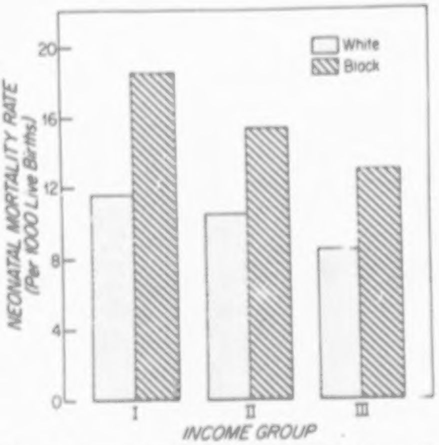

Figure 3. Neonatal Mortality Rates for the City of Boston from 1972 through 1979, According to Race and Income Group.

Table 1. Adjusted Birth-Weight–Specific Mortality Rates in Boston from 1972 to 1979, According to Race and Income Group.

Birth Weight	No. of Births	Race			Income*		
		White	Black	Black:White†	Group I	Group III	I:III†
		no. of deaths per 1000 live births					
Very low (<1500 g)	954	582.5	503.4	0.86 (0.72, 1.03)	475.3	502.4	0.95 (0.74, 1.21)
Low (1500–2500 g)	4,416	43.5	24.1	0.55 (0.38, 0.81)	23.7	32.1	0.74 (0.48, 1.14)
Normal (>2500 g)	52,780	2.4	3.3	1.38 (0.95, 1.99)	2.8	1.4	2.00 (1.42, 3.18)

*Group I, $5,941 to $11,035; Group II, $11,115 to $14,529; Group III, $14,738 to $33,409.

†Numbers in parentheses are 95 per cent confidence intervals.

3.7 for whites (odds ratio, 1.65; P<0.001). The Group I rate of 6.8 was significantly higher than the Group III rate of 3.2 (odds ratio, 2.11; P<0.001). The combination of a large relative disparity and high absolute mortality in this age group accounted for a substantial portion of the overall racial and income differentials, as shown in Figure 2.

Respiratory disease, primarily bronchopneumonia, was the leading cause of death in this age group, and was characterized by large racial and income differentials. The odds ratio for Group I relative to Group III was 2.99 (P<0.001), and that for blacks relative to whites was 2.07 (P<0.01). The rates of postneonatal mortality from this cause were considerably higher than similarly defined rates for Massachusetts and the United States. The Group I rate was 3.41 times higher than the statewide rate and 2.71 times higher than the national rate. The sudden infant death syndrome was the second leading cause of death in this age group, with rates generally comparable to Massachusetts and national rates.

Mortality beyond Infancy

A total of 806 of Boston's children between the ages of 1 and 19 years died during the eight-year period of study. The total crude mortality rate for the city was 6.30 per 10,000 child-years, with an adjusted rate of 6.21 (95 per cent confidence interval, 5.79 to 6.63) per 10,000 child-years. The adjusted mortality rate was 5.75 (5.24 to 6.26) for white children and 7.14 (6.30 to 7.98) for black children, with an odds ratio of 1.24 (1.08 to 1.43). Mortality for both races was highest in the low-income group, with an odds ratio of 1.47 (1.25 to 1.94). Black rates were significantly higher than white rates in Groups I and II but not in Group III. Adjustment by indirect standardization did not produce results that were significantly different from those with the direct procedure. Table 3 presents adjusted mortality rates and associated 95 per cent confidence intervals by race and income group for the four leading causes of death. Considerable racial and income effects are evident and are detailed below. To provide a context for the Boston rates, comparative mortality figures were calculated, using as standards the mortality experiences of the U.S. and Massachusetts childhood populations for the same period; these figures are summarized in Table 4.

Injuries accounted for approximately 75 per cent of all childhood deaths. Whereas medical conditions and respiratory diseases were of primary importance in the one- to four-year age group, injuries were particularly important in all other age categories. For the 5-to-9 and 10-to-14 age groups, fire was the leading cause of injury-related death and the largest contributor to income differentials in mortality. Although high for all children in Boston, the rate of death from fire was highest for those under four, and the observed rate in this age group was more than three times the national rate. Mortality from fire showed large differences between income groups but only minor racial differentials.

Fifty-seven per cent of all deaths in adolescents were due to only two causes: injuries to occupants of motor vehicles and homicide. Mortality from injuries to motor-vehicle occupants was directly related to income for whites, with the rate for the wealthiest group approaching state and national rates. Since so few black children died as a result of motor-vehicle occupant injuries over the eight-year period of study, rates by income group were not calculated for them. Homicide rates were substantially higher than the national and statewide experiences, and significant racial and income effects were noted. Overall, homicide claimed more lives during the period under study than any

Table 2. Contribution of Gestational Age and Intrauterine Growth to Total Racial Differential in Neonatal Mortality.*

	<37 Weeks' Gestation				≥37 Weeks' Gestation				Total	
	<10th percentile		≥10th percentile		<10th percentile		≥10th percentile			
	rate	*per cent*	*rate*	*per cent*	*rate*	*per cent*	*rate*	*per cent*	*rate*	*per cent*
Black	3.15	21.7	8.01	55.1	2.10	14.5	1.27	8.7	14.53	100
White	1.37	17.9	4.49	58.7	1.18	15.4	0.61	8.0	7.65	100
Rate ratio black:white	2.30		1.78		1.78		2.08		1.90	
Rate difference black-white	1.78	25.9	3.52	51.2	0.92	13.4	0.66	9.6	6.88	100

*Tenth percentile birth weight for gestational age based on data from Williams and Chen.[11] Rates represent the number of deaths per 1000 total race-specific live births.

Table 3. Adjusted Child Mortality Rates for Bosto om 1972 to 1979, According to the Cause of Death, Race, and Income Group.*

INCOME CATEGORY†	MEDICAL CONDITIONS	FIRE	MOTOR-VEHICLE OCCUPANT INJURIES	HOMICIDE	ALL OTHER CONDITIONS
	ADJUSTED RATE	ADJUSTED RATE	ADJUSTED RATE‡	ADJUSTED RATE	ADJUSTED RATE
Group I					
White	1.54 (0.95, 2.13)	0.72 (0.36, 1.11)	0.56 (0.23, 0.89)	0.77 (0.39, 1.15)	3.12 (2.10, 4.14)
Black	1.80 (1.24, 2.36)	0.51 (0.22, 0.78)	—	1.52 (1.06, 1.98)	3.84 (2.78, 4.90)
Total	1.69 (1.28, 2.10)	0.60 (0.37, 0.83)	0.34 (0.21, 0.47)	1.21 (0.90, 1.52)	3.43 (2.71, 4.16)
Group II					
White	1.27 (0.82, 1.73)	0.62 (0.32, 0.93)	0.86 (0.52, 1.2)	0.82 (0.47, 1.13)	2.75 (1.93, 3.57)
Black	2.11 (1.25, 2.97)	0.56 (0.12, 1.03)	—	1.22 (0.62, 1.82)	2.76 (1.77, 3.75)
Total	1.60 (1.17, 2.03)	0.60 (0.35, 0.85)	0.66 (0.48, 0.84)	0.94 (0.64, 1.24)	2.75 (2.17, 3.33)
Group III					
White	1.46 (1.09, 1.83)	0.21 (0.07, 0.35)	1.07 (0.80, 1.3)	0.28 (0.13, 0.42)	1.95 (1.48, 2.42)
Black	1.48 (0.56, 2.40)	0.33 (0, 0.79)	—	0.81 (0.18, 1.44)	1.92 (0.59, 3.25)
Total	1.47 (1.13, 1.81)	0.23 (0.09, 0.37)	0.99 (0.79, 1.19)	0.36 (0.20, 0.52)	1.93 (1.49, 2.37)
Total					
White	1.42 (1.15, 1.69)	0.44 (0.30, 0.58)	0.92 (0.73, 1.11)	0.54 (0.40, 0.68)	2.43 (2.03, 2.83)
Black	1.83 (1.40, 2.26)	0.50 (0.29, 0.71)	—	1.31 (1.01, 1.61)	3.51 (2.79, 4.23)
Total	1.55 (1.32, 1.78)	0.46 (0.34, 0.58)	0.23 (0, 0.37)	0.79 (0.64, 0.94)	3.18 (2.77, 3.59)

*Numbers in parentheses are 95 per cent confidence intervals. Rates are numbers of deaths per 10,000 child-years.

†Group I, $5,941 to $11,035; Group II, $11,115 to $14,529; Group III, $14,738 to $33,409.

‡Too few deaths among blacks were recorded in this category to allow stratification.

other form of injury-related death. A full 11.5 per cent of all deaths in children one month through 19 years of age were due to homicide. Although mortality from homicide was highest among adolescents, it is important to note that 28.5 per cent of all deaths from homicide occurred in children younger than 14, and 15.5 per cent in children under 4.

Although aggregated medical conditions were important contributors to absolute death rates for all age groups, racial and income differentials were relatively small. Neoplastic conditions accounted for slightly higher mortality in white children, but no significant income differentials were noted. Although it is quite possible that race and income affect certain specific medical causes of death, the small numbers of deaths in each category precluded a stratified analysis.

DISCUSSION

The findings of this study suggest that poor children in Boston have disproportionately high rates of mortality. If the death rate among the poorest group of children had been similar to that among the wealthiest, then more than one of every three deaths in the poorest group would not have occurred. Premature birth, respiratory disease, homicide, fire, and motor-vehicle injuries represent public health concerns of major importance. Indeed, these five conditions accounted for more than 60 per cent of the total mortality and for 73 per cent of the difference in mortality between income groups.

This study also suggests that substantial socioeconomic differentials may exist despite unusually high access to tertiary level services. A major goal of modern perinatology has been to ensure that all pregnant women and newborns who need intensive care have immediate access to it. Yet in Boston, where residents have virtually complete access to Level III services, racial and social disparities in neonatal mortality remain. This observation provides a worrisome context for recent reports of increasing racial disparities in statewide populations,[13,23] and suggests that the reduction of inequities in neonatal outcome will require strategies that extend beyond the regionalization of tertiary perinatal care. Similarly, substantial mortality differentials were observed among older children, despite the presence of highly developed tertiary care. However, unlike the findings in previous reports,[4,5,7] differentials due to medical conditions were not pronounced. Although this study cannot establish a causal relationship between the nature of Boston's health care system and this finding, the services provided by the city's tertiary facilities and extensive system of neighborhood health centers[24] may have been particularly influential in this category of death. In contrast, death from traumatic causes was closely associated with race and income, contributing to a pattern of substantial differential mortality. Although mortality from trauma may be partly reduced through improved medical therapy, it seems likely that far-reaching solutions will require a redirection of both clinical and public policies toward preventive goals.[25]

Race has commonly been used as a proxy for socioeconomic status in the United States,[7,26] and it continues to be associated with distinctions in social and economic standing in our society. This study explored how family income interacts with race in shaping patterns of childhood mortality. However, it is important to recognize that in this study race remains a proxy measure of social phenomena. Racial differences in mortality within income groups are considered a reflection of primarily social and economic influences more closely linked to race than to family income.

Age-specific analysis underscored the importance of death occurring in the neonatal period. In Boston, disparities in neonatal mortality were due primarily to high rates of low-weight births. The importance of reducing the incidence of low birth weight in the United States has been cogently documented by

Table 4. Comparative Mortality for Leading Causes of Death among Boston Children from 1972 to 1979, According to Income Group, with Massachusetts and U.S. Rates as Standards.

INCOME CATEGORY*	COMPARATIVE MORTALITY FIGURE†							
	MEDICAL CONDITIONS		FIRE		MOTOR-VEHICLE OCCUPANT INJURIES		HOMICIDE	
	Mass	*U.S.*	*Mass*	*U.S.*	*Mass*	*U.S.*	*Mass*	*U.S.*
Group I	1.15	1.07	2.58‡	3.90§	0.30§	0.27§	5.59§	3.71§
Group II	1.04	1.04	2.72‡	3.74§	0.58‡	0.52‡	4.49‡	2.52‡
Group III	0.94	0.99	0.94	1.29	0.88	0.77¶	1.71¶	0.99
Total	1.04	1.03	2.01‡	2.90§	0.61‡	0.54‡	3.69§	2.24‡

*Group I, $5,941 to $11,035; Group II, $11,115 to $14,529; Group III, $14,738 to [illegible]

†The comparative mortality figure is the ratio of the adjusted Boston rate to the standard rate.

‡Significant at P<0.01. §Significant at P<0.001. ¶Significant at P<0.05.

McCormack.[27] Although evidence suggests that strategies directed at maternal nutrition, cigarette and alcohol use, social support, and the expanded use of tocolytic agents may reduce the incidence of low birth weight,[28] it does not necessarily follow that they will also reduce racial or socioeconomic differentials in neonatal mortality. Since the causes of premature birth[29] and low birth weight[30] may vary for different populations of women, an emphasis on specific prenatal interventions could differentially affect stratified racial and socioeconomic groups. Furthermore, without linkage to expanded health care systems, these strategies could prove more accessible to relatively advantaged populations of childbearing women. The large differences in survival among infants of normal birth weight must also be addressed.[31]

Beyond the neonatal period, low income was also generally related to an increased risk of death in children. Reports from the United States[32,33] and Britain[3] have documented a similar relationship. However, this study suggests that although childhood mortality is generally related to low income, the strength and even the direction of socioeconomic effects vary for specific age groups and causes of death. The data also substantiate the important contribution of injuries to total and differential mortality in childhood.[8] Some investigators have suggested that larger socioeconomic differentials occur when injury and violence are most important to overall mortality.[32] That racial and income differentials were minimal in Boston's adolescent population is therefore an unexpected finding. In Boston, the two leading causes of death among adolescents, homicide and injuries to motor-vehicle occupants, had counterbalancing associations with income. These findings underscore the need for caution in using broad age and causal categories, particularly those commonly labeled "accidents and violence."

The Boston data also provide a reminder that in addition to larger societal forces, patterns of childhood death may also be influenced by local conditions. Although the association between poverty and death from respiratory illness is well known,[34] the relative size of the differentials in Boston was larger than previously reported. This may reflect a growth in the number of surviving premature neonates with residual respiratory compromise or a misclassification of sudden infant death in the respiratory category.[35] However, these high rates of respiratory death may reflect real microbiologic and environmental interactions, suggesting an important area for medical intervention. The rate of death from fire was also found to be particularly high in Boston, with adjusted rates in young children more than three times the national rate and twice the rate recently reported for this age group in Baltimore.[36] Several recent studies have suggested that mortality from motor-vehicle injuries contributes substantially to elevated mortality among children of low socioeconomic class.[32,33] The data from Boston, however, show that as family income rises, children under 20 years of age have a substantially higher risk of death as occupants of motor vehicles. Low family income in an urban center served by major public transit systems suggests a relatively lower exposure to occupancy of private motor vehicles than in areas where private ownership of vehicles may be essential. This apparent local variation in the epidemiology of major causes of childhood death could represent an important consideration in developing public policies designed to reduce differential mortality rates in children. Small-area analyses, although limited,[37] may help identify local priorities and suggest to health practitioners, public officials, and citizens the determinants of observed differentials commonly viewed as being beyond local control.

Our analysis relied on death-certificate diagnostic categories — a data source with well-documented limitations. However, its utility is substantially increased by comparing distinctly unrelated diagnostic groups. Experience has shown that minority or low socioeconomic groups are at highest risk of being undercounted in the national census,[38] and an undercount can lead to erroneous inflation of mortality rates. However, although estimates vary, the extent of undercounting in these groups does not appear to be large enough to explain the differentials in mortality observed in this study.[38,39] Another methodological concern is the possibility that the association between low income and high relative mortality may be explained by the movement, or "drift," of ill or debilitated persons into low-income areas.[4] Although chronic illness in children may affect familial income and social status, this factor seems less influential than illness in adults. In addition, the large contribution of catastrophic traumatic events to childhood mortality does not support the drift hypothesis as an explanation for the patterns of differential mortality.

On the basis of the experience described in this report, it seems unlikely that improved access to hospital-based services will effectively eliminate social differentiation in childhood mortality. Equitable access to all forms of medical care must remain an essential goal.[40] However, the disparities in the incidence and severity of life-threatening events in childhood must also be addressed. Of broader concern, however, is the recognition that this persistent differential risk of death among children seems to reflect the profound inequities that continue to shape their social environment. Differential mortality may reveal much about the way children die, but it also provides important insight into the way children live. Differential rates of childhood mortality may thereby represent a revealing, if not tragic, expression of social inequity in a city or in a society. This study serves as a reminder that as new therapies are developed to improve the outcome of illness, concurrent preventive efforts addressing the underlying determinants of differential mortality must also be undertaken. This linked approach will perhaps provide greater assurance that equity in childhood survival will soon be achieved.

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Preventing Low Birthweight

◆ Summary ◆

Committee to Study the
Prevention of Low Birthweight
Division of Health Promotion
and Disease Prevention
INSTITUTE OF MEDICINE

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This report has been reviewed by a group other than the authors according to the procedures approved by a Report Review Committee consisting of members of the National Academy of Sciences, the National Academy of Engineering, and the Institute of Medicine.

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MARCH OF DIMES BIRTH DEFECTS FOUNDATION

Preventing Low Birthweight

◆ Summary ◆

INTRODUCTION

Low birthweight is a major determinant of infant mortality in the United States. Infants weighing 2,500 grams (5.5 pounds) or less are almost 40 times more likely to die during their first 4 weeks of life than the normal birthweight infant. In addition, low birthweight survivors are at increased risk of health problems ranging from neurodevelopmental handicaps to lower respiratory tract conditions.

To determine whether opportunities exist to reduce the incidence of low birthweight in this country, the Institute of Medicine convened an interdisciplinary committee in 1983 to study the causes and prevention of premature birth and intrauterine growth retardation, the twin contributors to low birthweight. The committee was asked to define those measures likely to be most effective in preventing low birthweight and to consider their costs in relation to the costs of caring for low birthweight infants. As background to such an analysis, the group was also asked to assess the relationship of low birthweight to mortality and morbidity, to review existing information on the physiological causes of low birthweight and the risk factors associated with it, and to examine trends over time.

The committee concluded that the prevention of low birthweight could contribute significantly to a reduction in infant mortality in the United States and, more generally, to improved child health. Despite many unanswered questions about causation and the interplay of important risk factors, policymakers and health professionals have enough information at present to intervene more vigorously to improve pregnancy outcome. Useful approaches include placing greater emphasis on identifying and reducing risks before pregnancy, increasing the accessibility of early and regular high-quality prenatal care for all pregnant women, enriching the content of prenatal care and endowing it with sufficient flexibility to meet the needs of both high- and low-risk women, and developing a long-term public information program to convey messages about ways to reduce low birthweight. All of these efforts should be supported by research activities that will increase their effectiveness.

Progress in the directions recommended by the committee will require recognition of the low birthweight problem as an important national issue. This was partially achieved in 1980, when the Surgeon General of the United States specified a reduction in the low birthweight rate as one of the objectives for the nation for 1990.* But much more needs to be done. Congress, state governments, professional groups, business and labor organizations, church and women's groups, schools, and the media all have a role to play in improving the health of the nation's infants. The committee recommends that leadership in the effort to reduce the occurrence of low birthweight be assumed by the executive branch of the federal government, especially the Department of Health and Human Services. Such leadership should include an increased commitment of resources to a range of activities likely to decrease low birthweight.

The committee's conclusions and recommendations, and the data supporting them, have been published in a comprehensive report available from the National Academy Press. This summary volume is intended to provide a brief overview of the issues covered in the full report and is directed to health care practitioners, legislators and their staffs, government administrators, and all others interested in the prevention of low birthweight in infants.

Support for the Committee to Study the Prevention of Low Birthweight was provided principally by the Commonwealth Fund, with additional support from the Ford Foundation, the March of Dimes Birth Defects Foundation, the National Institute of Child Health and Human Development, and the National Research Council Fund.

THE LOW BIRTHWEIGHT PROBLEM

In 1982, 6.8 percent of newborns in the United States were low birthweight (2,500 grams or less), and slightly more than 1 percent were very low birthweight (1,500 grams or less). Low birthweight is an indicator of inadequate fetal growth, resulting from premature birth (duration of pregnancy less than 37 weeks from the last menstrual period), poor weight gain for a given duration of gestation (intrauterine growth retardation), or both.

To determine the consequences for child health of being born at low birthweight, the committee reviewed the literature on the relationships between low birthweight and both mortality and morbidity. Two-thirds of deaths in the neonatal period (the first 28 days of life) occur among infants born at 2,500 grams or less. The risk of mortality increases with decreasing birthweight—the risk of neonatal death is 200 times greater for the very low birthweight infant than for the normal birthweight infant.

The link between birthweight and death in the postneonatal period (between 28 days and 1 year of age) is less pronounced, but still significant. Low birthweight infants are five times more likely than normal birthweight infants to die later in the first year and account for 20 percent of postneonatal deaths.

High rates of low-weight births also contribute to differences in infant mortality found among particular groups of the population in the United States. For example, the higher neonatal mortality rates observed for nonwhite mothers, adolescent mothers, and mothers with less than a high school education are largely explained by higher proportions of low birthweight infants in these groups.

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*"By 1990, low birthweight babies . . . should constitute no more than 5 percent of all live births . . . (and) no county and no racial or ethnic group of the population (e g,. black, Hispanic, American Indian) should have a rate of low birth weight infants . . that exceeds 9 percent of all live births."[1]

For postneonatal mortality, the association is somewhat different. Even after controlling statistically for birthweight, postneonatal mortality rates remain higher for nonwhite infants, infants of teenage mothers, and infants of mothers of low educational attainment. Thus, factors typical of socioeconomic disadvantage are linked to increased infant mortality through both higher low birthweight rates and a birthweight-independent risk of postneonatal death.

Current Trends

Between 1965 and 1980, the infant mortality rate in the United States dropped by almost 50 percent, from 24.7 to 13.1 per 1,000 live births. This decrease has not been matched by a comparable decline in the rate of low birthweight. Between 1971 and 1982, low-weight births declined moderately from 76 to 68 per 1,000 live births. Analysis of national and state data shows that the decline in low birthweight has been confined to the group weighing between 1,501 grams and 2,500 grams. No decline has been observed in the proportion of very low birthweight infants.

Evidence from a variety of sources indicates that the recent decline in infant mortality, especially neonatal mortality, can be attributed largely to improved survival of low birthweight infants, resulting primarily from more specialized hospital-based management through neonatal intensive care programs. The moderate improvement in the low birthweight rate has played a relatively small role. Sustaining the decline in infant mortality will require major new actions to prevent low birthweight—an approach that may well prove to be considerably less costly, both socially and economically, than additional investments in neonatal intensive care.

Low Birthweight and Morbidity

Low birthweight infants appear to be at increased risk of a variety of health problems, although the impact of low birthweight on morbidity is less well established than its contribution to mortality.

The association between low birthweight and neurodevelopmental problems, such as cerebral palsy and seizure disorders, was first documented in the 1950s. Low birthweight infants are three times as likely as normal birthweight infants to have neurodevelopmental handicaps, and the risk increases with decreasing birthweight—8 to 19 percent of very low birthweight infants may be severely affected.

The risk of other developmental problems, especially those related to success in school, is more difficult to evaluate. It appears that these problems are more common among children whose birthweights were low for gestational age, but the evidence is not conclusive.

Low birthweight infants also are more likely to have significant congenital anomalies than normal birthweight infants and are more susceptible to conditions such as lower respiratory tract infections. They are also vulnerable to the potential side effects of neonatal intensive care interventions. In addition to prolonged hospitalization at birth, almost 40 percent of very low birthweight infants are rehospitalized more than once during the first year, for an average of 16 days. This compares with 19 percent of all low birthweight infants for an average of 12.5 days, and 8.7 percent of normal birthweight infants for an average of 8 days.

The birth of a low birthweight infant and the problems that follow may place substantial emotional and financial stress on a young family. The effects of this stress on the well-being of the infant, on the parent-child bond, and on siblings and the marital relationship are still being investigated.

Decreasing Mortality: The Effect on Morbidity

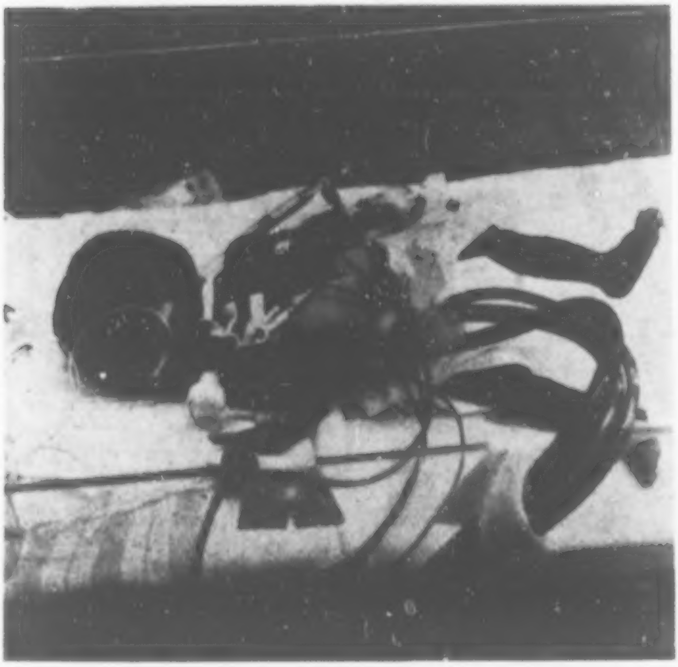
Greater success in saving the lives of low birthweight infants has not increased our burden of babies with handicaps, according to recent studies. The proportion with severe congenital malformations or retarded development remains the same, and there has been a decrease in the proportion of those with less severe problems related to birth. Concern remains, however, about the effects of increased survival of the very smallest infants, those less than 1,000 grams. These survivors constitute a relatively new population that will require long-term follow-up and evaluation.

CAUSES OF LOW BIRTHWEIGHT

An analysis of the causes of low birthweight must differentiate between those responsible for premature birth and those leading to intrauterine growth retardation (IUGR). Trying to separate the two conditions is complicated, however, because IUGR and prematurity occur together in a substantial portion of low birthweight cases.

The physiological and biochemical events that initiate and maintain normal human labor are not well understood, although recent investigations have produced important new clues about hormonal factors in the process. Theoretical models based on these clues have allowed researchers to begin studying variations from the normal pattern that might lead to premature labor. Certain clinical conditions, discussed in the following section on risk factors, appear to cause changes in the hormonal environment and metabolic state of the uterus and cervix. These changes probably result from complex interactions involving progesterone, estrogen, oxytocin, and other hormones; prostaglandins; calcium ions; adrenergic agents and receptors; catecholamines; and uteroplacental blood flow.

IUGR is associated with conditions that interfere with the blood circulation to and efficiency of the placenta, with the development of the fetus, or with the general health and nutrition of the pregnant woman. In many cases, however, no relevant pathogenic factors can be found. Maternal vascular diseases, such as chronic hypertension, chronic renal disease, or sickle-cell disease, may hamper delivery of nutrients or oxygen to the fetus. Multiple pregnancies may result in IUGR because the placenta cannot supply sufficient nutrients to more than one fetus. Fetal factors associated with IUGR include chromosomal disorders, chronic fetal infections such as congenital rubella and syphilis, and radiation injury. All of these associations suggest



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possible pathogenic mechanisms, but the underlying physiological processes have not been identified.

Risk Factors

In the absence of adequate information about the basic causes of low birthweight, a large body of information has developed about "risk factors," or factors whose presence in an individual woman indicates an increased chance of bearing a low birthweight infant. These factors, which will be outlined further in the following pages, are listed in Table 1. They include demographic characteristics, medical risks that can be identified before pregnancy and those that can only be identified during pregnancy, behavioral and environmental factors, risks associated with health care (such as inadequate prenatal care), and a separate group of factors whose relationship to low birthweight is more tenuous, such as stress, uterine irritability, and inadequate plasma volume expansion.

Grouping the risk factors as noted on the table helped the committee identify those that can be detected before pregnancy and reinforced the concept that interventions can begin before the prenatal period. Smoking is perhaps the best example of this perspective. The grouping also emphasizes the importance of behavioral and environmental risks and the need for interventions that go beyond medical care. The demographic measures can help to define target populations. The cluster of health care factors highlights the fact that not all risks for low birthweight derive from characteristics of women themselves. And finally, the category of evolving concepts of risk suggests some important research areas. These themes appear throughout the main report.

The committee concluded that a variety of factors are clearly and consistently linked to low birthweight. These factors should be used to help define high-risk groups and to develop and target interventions. It is apparent, however, that the magnitude of risk posed by each factor for an individual or for a group cannot always be calculated easily, that the risks for low birthweight are widely distributed throughout the population, and that a substantial number of low birthweight deliveries will continue to occur outside of groups currently defined as high risk. These circumstances highlight the need for greater understanding of risk and causation, but should not be used to minimize the value of using existing risk information for targeting interventions.

Demographic Risks

Because the major demographic risk factors are often interrelated, it has been difficult to determine the precise association between any single factor and low birthweight. Nonetheless, careful research is gradually defining the independent effects of many factors.

Race Black newborns are more than twice as likely to weigh less than 2,500 grams as white infants. The race-specific low birthweight rates among live births in the United States in 1981 were 12.5 percent for blacks and 5.7 percent for whites. The reasons for the higher risk among blacks are not clear. It has been speculated that maternal age may account for part of the difference—twice as many black births are to teenagers—but when black and white mothers of the same age are compared, blacks are at higher risk of low birthweight in every age group. Similarly, black mothers as a group have less education that white mothers, but when blacks and whites are matched by level of education, blacks still have a higher risk of low birthweight. Other factors that have been studied but fail to account for the white-black differential include delay in initiating prenatal care, smoking status, height and weight distributions of the mother, and obstetric history.

The committee's analysis of national and statewide trends in the white-black differential in low birthweight indicates that the gap is not closing. For the United States as a whole, the relative decline in white low birthweight rates between 1971 and 1981 exceeded the corresponding relative decline in black low birthweight rates. White low birthweight rates declined by 14 percent between 1971 and 1981, while black rates declined by only 6 percent. The absolute declines among whites and blacks, however, were more comparable. It appears, therefore, that characterizing trends in the difference between black and white rates of low birthweight depends to some extent on the measures used.

The issue of race and low birthweight is further complicated by the different birthweight-specific neonatal mortality rates of white and black infants. Black infants weighing less than 2,500 grams have long been recognized to have better rates of survival in the neonatal period than white infants of

TABLE 1 Principal Risk Factors for Low Birthweight

I. DEMOGRAPHIC RISKS
  A. Age (less than 17; over 34)
  B. Race (black)
  C. Low socioeconomic status
  D. Unmarried
  E. Low level of education

II. MEDICAL RISKS PREDATING PREGNANCY
  A. Parity (0 or more than 4)
  B. Low weight for height
  C. Genitourinary anomalies/surgery
  D. Selected diseases such as diabetes, chronic hypertension
  E. Nonimmune status for selected infections such as rubella
  F. Poor obstetric history including previous low birthweight infant, multiple spontaneous abortions
  G. Maternal genetic factors (such as low maternal weight at own birth)

III. MEDICAL RISKS IN CURRENT PREGNANCY
  A. Multiple pregnancy
  B. Poor weight gain
  C. Short interpregnancy interval
  D. Hypotension
  E. Hypertension/preeclampsia/toxemia
  F. Selected infections such as symptomatic bacteriuria, rubella and cytomegalovirus
  G. 1st or 2nd trimester bleeding
  H. Placental problems such as placenta previa, abruptio placentae
  I. Hyperemesis
  J. Oligohydramnios/polyhydramnios
  K. Anemia/abnormal hemoglobin
  L. Isoimmunization
  M. Fetal anomalies
  N. Incompetent cervix
  O. Spontaneous premature rupture of membranes

IV. BEHAVIORAL AND ENVIRONMENTAL RISKS
  A. Smoking
  B. Poor nutritional status
  C. Alcohol and other substance abuse
  D. DES exposure and other toxic exposures, including occupational hazards
  E. High altitude

V. HEALTH CARE RISKS
  A. Absent or inadequate prenatal care
  B. Iatrogenic prematurity

VI. EVOLVING CONCEPTS OF RISK
  A. Stress, physical and psychosocial
  B. Uterine irritability
  C. Events triggering uterine contractions
  D. Cervical changes detected before onset of labor
  E. Selected infections such as mycoplasma and Chlamydia trachomatis
  F. Inadequate plasma volume expansion
  G. Progesterone deficiency

similar birthweight. Based on this observation, some researchers have suggested that the 2,500-gram marker of low birthweight may not have the same implications for nonwhite infants as for whites; however, this line of reasoning is overshadowed by the more imposing fact that nonwhite infants are twice as likely to be born at low birthweight and twice as likely to die in the neonatal period as white infants.

The conclusion to be drawn from the complicated data on race, low birthweight, and race-specific birthweight mortality rates is that the reasons for the risk differentials between white and black newborns are not well understood. The cumulative effects over time of black poverty and lower social status, and the interaction of such factors with biological processes, undoubtedly have played a role in these racial differences; other factors remain to be defined. Research should be pursued to improve our understanding of these important issues.

Age Teenage mothers and those age 35 years or older have higher rates of low birthweight than mothers in their twenties and early thirties. The risk is highest for young mothers, especially among whites; however, childbearing in the teen years is more prevalent among blacks. In 1980, 21.1 percent of all black births were to teenagers, compared with 12.1 percent of white births and 15.3 percent of Hispanic births.

Studies indicate that young age is not an independent risk factor for low birthweight. Teenage mothers have many other characteristics that increase the likelihood of a low-weight birth. They are more likely to be black, of low socioeconomic status, and unmarried than older mothers. Also, they are shorter and lighter, less educated, and more likely to report late for prenatal care than their older counterparts.

Socioeconomic Status Low socioeconomic status (SES), measured in terms of social class, income, education, or census tract, is clearly associated with an increased risk of preterm delivery and IUGR. The literature suggests that at least some of the excess risk arises from separate factors linked both to low social class and low birthweight. These include smoking, low maternal weight gain and short stature, obstetric complications such as hypertension and preeclampsia (a toxic condition of late pregnancy), some types of genitourinary tract infections, and limited access to high-quality prenatal care. The effect of socioeconomic status probably represents the sum of many factors, each of which may increase the risk of poor pregnancy outcomes.

Education The risk of low birthweight declines sharply among mothers with at least 12 years of education. The relationship between education and low birthweight is independent of maternal age and race. The committee's analysis of national data indicates that the gap in low birthweight rates among mothers with different levels of education is not closing and may be widening. This finding is especially important given that the educational attainment of mothers has increased significantly during the past 10 to 15 years. The widening gap suggests that the poorly educated may constitute an increasingly high-risk group.

Marital Status Unmarried mothers have a consistently higher risk of bearing a low birthweight infant than those who are married. This risk is not attributable to differences in age or race. In 1980, the low birthweight rate for infants born to unmarried mothers was 11.6 percent, compared with 5.8 percent for babies whose mothers were married. The significance of marital status as a risk factor is underscored by the increase in childbearing among unmarried women. Between 1976 and 1981, the proportion of white mothers reported to be unmarried increased from 7 percent to 12 percent; for blacks, the proportion increased from 51 percent to 56 percent.

Medical and Obstetric Risks

Medical and obstetric risks for low birthweight can be divided between those detectable before pregnancy, such as chronic illness in the mother or a history of poor pregnancy outcome, and those that can be noted only during pregnancy, such as placenta previa. The committee focused on a subset of these problems: hypertension/preeclampsia, diabetes, obstetric history (including previous induced abortion), multiple pregnancy, and infection.

Hypertension/Preeclampsia Hypertension is the disease most often associated with fetal growth retardation; it also can be associated with preterm delivery. In one study population in the 1970s, researchers found that 27 percent of IUGR with an identifiable cause could be attributed to severe preeclampsia, chronic hypertensive vascular disease, or chronic renal disease.[2] Infants with IUGR were born to 30 percent of patients with a diagnosis of chronic hypertension and to 46 percent of patients with severe preeclampsia. Elevated maternal blood pressure also may cause preterm labor (often precipitated by premature detachment of the placenta), or necessitate medical intervention to deliver the baby and thereby avoid more serious problems.

Diabetes Maternal diabetes mellitus is frequently associated with babies born large for gestational age, but the disease also may lead to IUGR or preterm delivery. In the past, diabetes-related premature births often resulted from physician interventions to avoid unexpected intrauterine death. These early deliveries were appropriate in some cases but not in others. Improved management of diabetes and new techniques to assess fetal well-being, gestational age, and lung maturity have reduced the number of unnecessary early deliveries associated with maternal diabetes. Premature delivery may still be necessary in some cases, however, for pregnant women with insulin-dependent diabetes complicated by diabetic vasculopathy. In such women, preterm delivery may be required because of worsening maternal retinopathy, nephropathy, or hypertension.

Increasing evidence indicates that poor control of maternal diabetes during the early weeks of embryonic development may contribute both to poor fetal growth and congenital defects. Researchers have shown that excellent control of diabetes before conception and during the early weeks of pregnancy can decrease the risk of fetal malformation,[3] but the effects of such control on fetal growth have not been explored.

Obstetric History The history of a woman's previous pregnancies is of prime importance in the prediction of a subsequent low birthweight infant. A detailed study of the weights and gestational ages of all births in Norway from 1967 through 1973 showed that a premature first birth is the best predictor of a premature second birth and that growth retardation in a first pregnancy is the most powerful predictor of growth retardation in a second pregnancy.[4] Previous fetal and neonatal deaths also are strongly associated with preterm low birthweight, and the risk increases as the number of poor fetal outcomes increases.

The effect of the interaction between maternal age and birth order on low birthweight has been well documented. The incidence of low birthweight is high for women between 15 and 19 bearing their second or later child, low for women age 25 to 34 bearing their third or later child, and increases sharply among women having their first child after age 29.

Special tabulations on 1981 live births performed for the committee by the National Center for Health Statistics show that interval between pregnancies also affects low birthweight. The risk is sharply elevated for an interval of less than 6 months, decreases moderately from 6 months to between 24 months and 36 months, and then rises gradually. However, short interpregnancy interval is not associated with an increased risk of low birthweight if the previous pregnancy ended in a fetal death.

Previous Induced Abortion Because about 1,500,000 legal induced abortions occur annually in the United States, the committee believed it was important to assess the impact of such procedures on the incidence of IUGR and preterm delivery in subsequent pregnancies. A review of the literature showed that:

- the risk of low birthweight or preterm delivery in a pregnancy following one that is terminated by vacuum aspiration abortion in the first trimester (the most common abortion procedure in the United States) is no greater than the risk of adverse outcome expected for a first pregnancy; and
- the effect of multiple abortions on subsequent pregnancies is unclear; some studies have shown an increased risk of low birthweight and others have not—the outcome may depend on the type of abortion procedure performed. There is some concern that abortion techniques requiring cervical dilatation of more than 12 millimeters may lead to problems of cervical incompetence, and therefore an increased risk of prematurity in subsequent pregnancies.

The committee concluded that research is needed to investigate further the relationship of induced abortion to the outcome of future pregnancies.

Multiple Pregnancy Pregnancies with twins, triplets, or more carry an increased risk both of preterm delivery and low birthweight. Even at full term, infants in plural deliveries are 11 times more likely to be of low birthweight than singleton deliveries. Neonatal mortality also is greatly increased in multiple pregnancies, and morbidity is high among survivors.

Infections A variety of infections have been linked with both preterm delivery and intrauterine growth retardation. For some infectious agents, a causal role in low birthweight has been established; for others, the association is less clear. Many of these infections can be prevented or treated, reducing the risk of an adverse pregnancy outcome.

Congenital rubella syndrome and cytomegalovirus infection, both commonly associated with congenital defects, also can cause intra-uterine growth retardation. The incidence of rubella virus infection in the United States and the number of congenitally infected newborns have decreased significantly since the introduction of the rubella vaccine.

Untreated or inadequately treated symptomatic urinary tract infections are known to cause a variety of problems for both mother and fetus, including low birthweight. Pregnant women with no symptoms of such infections (asymptomatic) should be screened routinely for bacteriuria (the presence of bacteria in the urine), because symptomatic infections can be prevented in most patients by treatment of asymptomatic infections. Culture techniques are inexpensive and easy to use; patients with known infections can be taught to culture their urine at home.

Another organism that may lead to low birthweight as a result of maternal genitourinary infection is mycoplasma. In one recent study, mycoplasma-infected women treated with a 6-week course of erythromycin showed a markedly reduced incidence of low birthweight.[5] More research is needed to confirm this effect and to explore its significance.

Some researchers believe that certain genital pathogens may trigger preterm labor, as well as affect intrauterine growth. To explore these relationships further, future studies must examine comprehensively the flora of the cervix and vagina, identify local and systemic immune responses, and assess their combined influence on pregnancy outcome.

Nutrition

Four types of research have been used to examine the effect of nutrition during pregnancy on birth outcomes: animal studies, human war famine studies, nutritional intake/fetal outcome correlational studies, and experimental nutrition intervention studies. They all point to the common conclusion that good nutrition has a positive influence on birthweight, but the extent of the effect is unclear. The magnitude of nutritional effects on low birthweight is not easily assessed because nutritional status is difficult to isolate from other socioeconomic characteristics and because of the complicated relationship between prepregnant weight and weight gain during pregnancy. While researchers have found positive relationships between birthweight and nutritional status, there is wide variability in the degree of these associations. A reasonable conclusion is that poor nutritional status before pregnancy and inadequate nutrition during pregnancy have a negative impact on fetal weight gain, thereby increasing the risk of IUGR.

One recent study explored the relationship between a mother's weight gain during pregnancy and the occurrence of low birthweight by analyzing data from the 1980 National Natality and Fetal Mortality Surveys. The investigators found that many groups of women known to have an increased risk of delivering a low birthweight infant also were more likely to have inadequate weight gains. For example, they found that black mothers were twice as likely as white mothers to gain less than 16 pounds during pregnancy. In addition, mothers 35 years of age or older and teenage girls were less likely to gain at least 16 pounds, as were unmarried women, poorly educated women, and women of lower socioeconomic status. A further analysis of numerous risk factors among white mothers only indicated that, except for period of gestation, weight gain has the strongest impact on birthweight.[6]

Behavioral and Environmental Risks

Smoking Smoking is one of the most important and preventable determinants of low birthweight in the United States. A recent survey of the literature on smoking and birthweight indicates that smoking during pregnancy is associated with a reduction in birthweight ranging from 150 to 250 grams. This relationship has persisted for at least 20 years, despite reported reductions in the average tar and nicotine yields of cigarettes on the market.[7] The reasons for the detrimental effects of cigarette smoking are not fully understood, but the fact that an estimated 20 to 30 percent of pregnant women in the United States smoke underscores the importance of this risk factor.

Alcohol Use The data on maternal alcohol consumption and its association with low birthweight are not as uniform as for smoking. It is reasonably certain that pregnant women who drink heavily are at risk of delivering a baby with fetal alcohol syndrome—characterized by IUGR and a variety of other problems. The impact of moderate alcohol use is less clear. A 1983 review of the literature suggested that regular drinking of fewer than two drinks per day probably is not an important determinant of IUGR,[7] but two more recent studies contradict this conclusion. In one, a prospective study of 30,000 pregnancies, women who drank one or two drinks per day proved to have an increased risk of IUGR even after the figures were adjusted for maternal age, race, education, marital status, and a variety of other risk factors.[8]

Uncertainty over the effects of alcohol on fetal development warrants caution: the Surgeon General of the United States has advised pregnant women not to drink alcoholic beverages.

Iatrogenic Risks

Iatrogenic prematurity refers to the birth of a physiologically immature and/or low-weight infant who is delivered prematurely as a result of medical intervention. Some cases are justifiable—the decision to end a pregnancy early may be made to avert more serious consequences for the mother or infant—but others are practitioners' mistakes. Studies conducted in the early and mid-1970s found that from 4 to 8 percent of infants admitted to neonatal intensive care units in three cities had been born prematurely as a result of labor inductions and electively timed cesarean sections.[9-11]

Accurate prenatal assessment of gestational age, combined with selected use of ultrasound examination and new techniques to test fetal lung maturity, could reduce the number of cases of accidental iatrogenic prematurity. Iatrogenic prematurity also could be reduced by decreasing the number of primary and repeat cesarean sections.

Evolving Concepts of Risk

A desire to improve the health care professional's ability to identify pregnant women at risk of a low-weight birth has led researchers to study a variety of other possible risk factors. Those described in the full report include stress, uterine irritability and the notion of "triggering factors," certain cervical changes detected before labor begins, inadequate plasma volume expansion, and progesterone deficiency. The first three factors only are outlined below.

Stress The relationship between socioeconomic status and low birthweight suggests that a woman's response to her environment may have an impact on pregnancy outcome; it may be, for example, that poverty is a risk factor for low birthweight because of the high levels of stress associated with being poor. Two types of stress have been examined in numerous studies: physical stress and fatigue, particularly as related to employment during pregnancy, and psychological distress resulting from maternal attitudes toward the pregnancy or from external stressors in the environment.

Major studies of physical stress (usually in a work-related setting) indicate that there may be some association between low birthweight (both IUGR and prematurity) and activities that require long periods of standing or other significant amounts of physical stress. There is no conclusive evidence, however, that maternal employment per se increases the risk of low birthweight.

HEALTHY MOTHERS HEALTHY BABIES COALITION

Numerous reports suggest a link between stress and conditions that increase the risk of IUGR and preterm labor, such as preeclampsia, but relatively little data exist to support a strong, direct relationship between maternal psychological stress and low birthweight. Some data link psychological stress to a number of other poor pregnancy outcomes such as fetal distress, neonatal motor immaturity, perinatal deaths, and congenital anomalies.

Research in this area is plagued by a variety of problems, including the absence of a clear measure, or marker, of stress. Many studies suffer from a major methodological flaw—the stress is not assessed until after the event. This introduces the potential for recall bias, which could increase the reporting of stress among mothers with poor pregnancy outcomes. Also, concepts and definitions of stress vary substantially among studies, and sample sizes are often too small to isolate specific outcomes such as low birthweight. Finally, most current projects evaluating the effects of stress fail to control for smoking, a major correlate of low birthweight.

Uterine Irritability The concept of uterine irritability and the possibility that certain external factors can stimulate or "trigger" uterine contractions are just beginning to be explored. Some studies suggest that excessive uterine activity may be a component of the events leading to preterm labor. For example, in a recent study comparing the rhythm of uterine contractions in the latter part of pregnancy over a 24-hour period in normal pregnancies and in pregnant women at high risk of preterm labor, the women with normal pregnancies were found to have long periods during which the uterus was quiet each night. In contrast, the high-risk women had uterine activity throughout the 24-hour cycle.[12] Assessing the extent of uterine activity could be part of the surveillance of pregnant women at risk of preterm labor. Similarly, it may prove prudent to advise high-risk women to avoid those activities (which vary among individual women) that stimulate uterine contractions.

Cervical Changes Recently, interest has grown in increasing the number of cervical assessments made in later pregnancy in order to identify changes that occur several days and sometimes even weeks before the onset of preterm labor. The presence of a short cervix or dilatation may lead the clinician to initiate some form of intervention to forestall preterm labor. Some prenatal care specialists advocate regular pelvic exams in later pregnancy to detect these changes, but others have expressed concern that these exams might lead to premature rupture of the membranes or other problems. No conclusive data exist on the risks of frequent cervical exams prior to term.

Risk Assessment

In an effort to use risk factor data to help structure prenatal care for pregnant women, researchers have developed a variety of techniques to measure risk status, including scoring systems (risk assessment instruments) to distinguish women at high risk of preterm labor and/or IUGR from women at low risk. The committee examined the predictive capabilities of 13 risk classification systems; a complete description of the results appears in the main report. An important finding was that the majority of these systems correctly identify as high risk about 65 percent or more of those pregnancies with eventual adverse outcomes.

In addition to distinguishing high-risk from low-risk women, well-constructed risk assessment systems have the potential to reduce the misdiagnosis both of IUGR and preterm labor and are helpful additions to clinical judgement in evaluating the risk of low birthweight. They also offer the possibility of grouping risk factors by their preventability or modifiability, thereby suggesting possible interventions. And risk asessment systems can encourage more appropriate referrals for care and more reasonable resource allocations for the management of preterm birth.

The limitations of these instruments also must be recognized. First, because the performance of a risk assessment instrument is to some extent dependent on the prevalence in a population of the adverse outcome being assessed, it is unlikely to produce the same results in every setting. Second, the instrument is a statement of probability only and cannot be viewed as a definitive predictor for a specific woman. Third, the instrument cannot be used in a rote manner to substitute for high-quality professional care. The not infrequent occurrence of low birthweight deliveries in low-risk women suggests that additional research is needed to improve the predictive capability of these systems. It also indicates that clinicians must be alert to the possibility of low birthweight even in pregnant women judged to be at low risk of such an outcome.

Research

A major theme that emerges from the voluminous information on the causes and risks of low birthweight is the critical need for additional research in many areas. In particular, our understanding of the physiological processes involved in premature labor and IUGR is seriously inadequate. Efforts to prevent low birthweight will remain limited until more is known about basic causal mechanisms.

In addition, more research is needed on specific risk factors, not only those somewhat speculative in nature, but also those clearly linked to low birthweight. For example, little is known about the ways in which race exerts an effect on birthweight, and prevention strategies aimed at certain other risk factors, such as alcohol abuse, could be improved if there were a better definition of the magnitude of risk at various levels of consumption. Studies of evolving concepts of risk should focus on both the nature and the magnitude of the risk. Stress, various infections, inadequate plasma volume expansion, uterine irritability, and the other, somewhat speculative risk factors noted earlier are potentially very important in the development of low birthweight and merit careful study.

For both known and less certain risk factors, efforts should be made to distinguish risks for very low birthweight (1,500 grams or less) from risks for moderately low birthweight (1,501 to 2,500 grams) at various gestational ages. These subcategories of low birthweight may be associated with different causal mechanisms and health consequences and therefore may require different preventive interventions.

Improved understanding of low birthweight also will depend on more timely data analysis and reporting (particularly of vital statistics data) and on greater uniformity of reporting procedures and terminology across states. In addition, high priority should be given to more detailed studies of selected cohorts of pregnant women, because vital record data alone do not provide sufficient information on important aspects of maternal behavior (such as smoking) and pregnancy history or on the content of prenatal care.

All of these efforts will contribute to improvements in the science of risk assessment, among other benefits. Additional ways to strengthen the impact of risk assessment include: establishing more uniform outcome definitions to allow comparisons among risk assessment systems, testing of various risk assessment methods in the same population, testing of individual risk assessment instruments on populations other than those contributing to their development, and designing systems to permit some degree of individualization of the risk score.

Opportunities for Prevention

Against a background of the data summarized briefly above on trends in low birthweight and on associated causes and risks, the committee outlined several approaches to reducing the occurrence of low birthweight in infants. The next several sections describe those strategies found most promising and feasible.

PLANNING FOR PREGNANCY

Numerous opportunities exist before pregnancy to reduce the incidence of low birthweight, yet these are often overlooked in favor of interventions during pregnancy. In a fundamental sense, healthy pregnancies begin before conception. Therefore, the committee emphasizes the importance of prepregnancy risk identification, counseling, and risk reduction; health education related to pregnancy outcome generally and to low birthweight in particular; and full availability of family planning services, especially for low-income women and adolescents.

Prepregnancy Risk Identification and Reduction

Among the risk factors that can be recognized and addressed before pregnancy are certain maternal chronic illnesses, smoking, moderate-to-heavy alcohol use, inadequate weight for height, poor nutritional status, susceptibility to rubella and other infectious agents, age (under 17 and over 34), the possibility of a very short interval between pregnancies, and high parity.

For some of these factors, reducing the risk before conception may offer more protection than doing so once pregnancy has been established. For example, the famine studies following World War II demonstrated the importance of adequate nutritional status during the period immediately before pregnancy.[13] Similarly, some chronic maternal illness such as hypertension or diabetes presents a less serious risk to both mother and fetus if the condition is adequately controlled before pregnancy. Also, reducing high levels of alcohol and tobacco consumption before conception may exert more of a protective effect with regard to low birthweight than reduction during pregnancy.

Accordingly, some experts have suggested that more attention be given to prepregnancy counseling aimed at detecting risk factors and intervening, where possible, to reduce them. Prepregnancy counseling is especially important for women who already have experienced a poor pregnancy outcome. As noted earlier, when a woman has had a preterm birth or a baby with IUGR, the risk of the same problem in subsequent pregnancies increases substantially. Health care professionals should pay special attention to risk factor identification and reduction in these women.

Prepregnancy consultations should be available from a variety of professionals in different settings. Obstetricians and gynecologists, nurses and nurse-midwives, family planning personnel, and primary care providers generally should be made aware of the importance of prepregnancy risk identification. Pediatricians, in particular, have an important role to play. For example, in working with families having a child born at low birthweight, pediatricians and related health care providers can counsel about risk reduction if a future pregnancy is anticipated. Also, in caring for adolescent girls, pediatricians and other primary care providers have an opportunity to reduce selected risks (for example, by immunizing against rubella) and to introduce basic concepts of planning for pregnancy.

Realizing the benefits of prepregnancy risk identification will require widespread education of both health care professionals and the general public about this concept. Success also will depend on the willingness of third-party payers to reimburse for such services and on the availability of health resources to manage problems once they have been identified. Further research is needed to define these prepregnancy services further and to determine their effectiveness.

Enlarging the Content of Health Education

A second strategy available before pregnancy involves health education related to reproduction. Education about reproduction, contraception, pregnancy, and associated topics already is provided in a variety of ways: through public information campaigns; in school-based classes, group sessions, lectures, and related printed materials; and in various health care settings. To increase the impact of these education programs on the problem of low birthweight, they should be expanded to include the following six topics:

1. a description of the principal factors that place a woman at risk of poor pregnancy outcome, including low birthweight;
2. the general concept of reducing specific risks before conception and the advisability of counseling before pregnancy to identify and reduce risks associated with low birthweight;
3. the importance of early pregnancy diagnosis and of early, regular prenatal care (including how to obtain such services);
4. the importance of immunizing against rubella and of identifying other infection-related risks to the fetus;
5. the value of altering behavior to reduce a range of risks associated with low birthweight, including smoking, poor nutrition, and moderate-to-heavy alcohol consumption; and
6. the heightened vulnerability of the fetus to environmental and behavioral dangers in the early weeks of pregnancy, often before pregnancy is suspected or diagnosed, and therefore the need to avoid x-rays, alcohol and drug use, selected toxic substances, and similar threats in the first 3 months of pregnancy.

These health education themes should be included in a variety of health care settings, including family planning clinics where many women of reproductive age receive care. National organizations of family planning providers should promote the use of educational materials encompassing these themes, particularly for their clients who are considering becoming pregnant. Private practitioners also should offer comprehensive health education related to reproduction, incorporating these same topics.

Of equal importance are the sex education and family life education curricula and teaching materials of schools. Although these issues may be discussed in some settings, the little information available on school-based health education suggests that they are of low priority.

The Role of Family Planning

Family planning services should be an integral part of overall strategies to reduce the incidence of low birthweight. Several studies suggest that family planning has made a considerable contribution to reducing the infant mortality rate in the United States over the past 20 years and has also played a role in the gradual decrease in the rate of low birthweight.

Family planning helps to decrease the occurrence of low birthweight by reducing the number of births to women with a variety of high-risk characteristics, including extreme youth or age, a large number of previous births, chronic severe hypertention, severe heart and kidney diseases, and other risk conditions. These services also reduce the probabilities of a low-weight birth by increaseing the interval between births for many women; an interval of less than 6 months is associated with a sharply elevated risk of low birthweight.

The committee explored the concept that family planning also reduces low birthweight by increasing the proportion of pregnancies that are intended and wanted at the time of conception. It is apparent, for example, that both teenagers and unmarried women experience higher than average rates of low birthweight; they also report higher rates of unintended pregnancies. It has been suggested that a woman who has planned for and welcomes her pregnancy will follow the health practices necessary to increase the chances of a successful pregnancy outcome more adequately than a woman with an undesired pregnancy. Recent data from the 1980 National Natality Survey support this thesis. In the portion of that survey focused on married women only, wantedness of pregnancy had a strong relationship to seeking prenatal care. Women who wanted a child at the time they became pregnant were more likely to receive care early in pregnancy than were those who would have preferred to have had a child at a later time. Women who had not planned to have another child showed the most delay in seeking prenatal care. These factors accounted for about a third of the black/white differential in the number of prenatal visits.[14]

Unmet Need for Family Planning

The large number of unintended pregnancies in the United States, the percentage of women at risk of unintended pregnancy who do not use contraception, and the number of abortions indicate that existing family planning strategies are not fully adequate. The reasons for this problem range from service inadequacies to the knowledge, attitudes, and practices of individual couples.

The unmet need appears to be largest among two groups at particularly high risk of low birthweight, the poor and the young. It has been estimated that in 1981, about 9.5 million low-income and 5 million sexually active teenagers needed subsidized (i.e., supported at least in part by public funds) family planning care, but over 40 percent of both groups did not obtain medically supervised contraceptive care.[15]

For this reason, the committee emphasizes the importance of Title X of the Public Health Service Act. Title X authorizes project grants to public and private nonprofit organizations for the provision of family planning services to all who need and want them, including sexually active teenagers, but with priority given to low-income persons. The committee urges that federal funds be made generously available to meet the documented need for family planning. The Title X program and family planning services generally should be regarded as important parts of the public effort to prevent low birthweight.

The prevention of unwanted pregnancies in sexually active adolescents, particularly those under 17 who are unmarried, should receive special attention. Infants born to members of this group have substantially higher rates of low birthweight, neonatal mortality, and postneonatal mortality and morbidity than infants born to older mothers.

THE IMPACT OF PRENATAL CARE

After a comprehensive review of the literature on the value of prenatal care, the committee concluded that the overwhelming weight of the evidence is that prenatal care reduces low birthweight. This finding is strong enough to support a broad, national commitment to ensuring that all pregnant women in the United States, especially those at medical or socioeconomic risk, receive high-quality prenatal care.

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Prenatal Care Studies

In reaching this conclusion, the committee reviewed two groups of studies designed to determine the value of prenatal care in the prevention of low birthweight. The first group consisted of studies involving large data sets, usually a year of live births in a large geographic area or in the nation as a whole. The second included studies evaluating the impact on pregnancy outcome of specific programs offering prenatal care and related services. Conclusions drawn from both classes of studies are limited by a variety of problems inherent in all studies of the effectiveness of prenatal care. These problems, detailed in the full report, involve difficulties in research design, inadequate definitions of the content of prenatal care, selection bias, and other issues.

The committee noted that a major theme of virtually all the studies reviewed is that prenatal care is most effective in reducing the chance of low birthweight among high-risk women, whether the risk derives from medical factors, sociodemographic factors, or both. This finding has important implications for targeting interventions; it also suggests that differences in the risk status of various study populations may partially explain variations in the prenatal care effects observed across studies.

All of the studies reviewed that are based on large numbers of cases, particularly those using vital statistics data, show that prenatal care exerts a positive effect on birthweight. Unfortunately, because content of prenatal care is not defined carefully in many of these studies, it is not possible to trace the benefits of care to specific aspects of the total care package.

More variation exists among the results of studies evaluating special programs, although the majority show that prenatal care is associated with improved birthweight. Those special programs that have shown positive impact on birthweight usually offer prenatal care that goes beyond more routine services to include flexible combinations of education, psychosocial and nutrition services, and certain clinical interventions such as careful screening for medical risks and a rapid response to the first signs of early labor. The successful projects also offer a package of services that often is carefully defined and described in written standards.

The limited impact of prenatal care suggested by some of the special programs may result from the fact that the care was not organized to address what is now known about the causes and risks of low birthweight. For example, the care may not have focused on such factors as smoking reduction, adequate weight gain, reducing alcohol and other substance abuse, patient and provider education about prevention of prematurity, or specific medical risks associated with low birthweight, such as bacteriuria.

Effect of Prenatal Care on Health Care Expenditures

The economic impact of prenatal care and other strategies to reduce low birthweight is difficult to evaluate because adequate cost information is rarely available. Nevertheless, informed public policy requires consideration of the costs as well as the benefits of proposed health promotion strategies.

The committee found that while it was not possible to complete a formal cost-effectiveness analysis of each of the strategies it recommended to reduce low birthweight, it was possible to estimate some of the financial implications of providing prenatal services to certain groups of high-risk pregnant women.

The committee defined a high-risk target population of women with less than a high school education and on welfare, who often do not begin prenatal care in the first 3 months (trimester) of pregnancy. The current low birthweight rate in this group is about 11.5 percent. The committee estimated the increased expenditures that would be required to provide routine prenatal care to all members of the target population from the first trimester to the time of delivery. These expenditures were compared with savings that could be anticipated through a decreased incidence of low birthweight resulting from the improved utilization of prenatal care by the target population. These savings were estimated for a single year and consisted of initial hospitalization costs, rehospitalization costs, and ambulatory care costs associated with general illness. The many assumptions that shaped these calculations are detailed in the report.

The analysis showed that if the expanded use of prenatal care reduced the low birthweight rate in the target group from 11.5 percent to only 10.76 percent, the increased expenditures for prenatal services would be approximately equal to a single year of cost savings in direct medical care expenditures for the low birthweight infants born to the target population. If the rate were reduced to 9 percent (the 1990 goal set by the Surgeon General for a maximum low birthweight rate among high-risk groups), every additional dollar spent for prenatal care within the target group would save $3.38 in the total cost of caring for low birthweight infants requiring expensive medical care.

The committee emphasizes that net savings in government expenditures is a limited criterion. A society concerned with the health and productivity of all its citizens might well choose to reduce low-weight births through additional investments in prenatal care or other approaches even if the budgetary outlays were to exceed savings.

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ENSURING ACCESS TO PRENATAL CARE

Efforts to reduce the nation's incidence of low birthweight must include a commitment to enrolling all pregnant women in prenatal services early in pregnancy. Ironically, many of the women who now receive inadequate prenatal care are those who would benefit the most from such services—those at greater than average risk of a low birthweight delivery. In addition, recent evidence suggests that the trend throughout the 1970s toward improved use of prenatal services, particularly by high-risk women, may have come to a halt. National, state, and local data indicate that the proportion of mothers beginning prenatal care in the first trimester of pregnancy increased steadily from 1970 to 1980, but that this trend has levelled off or possibly reversed since 1981. The committee views with deep concern the possibility that the nation's progress in extending prenatal benefits to all women has been disrupted.

The committee believes that full access to prenatal care will require a fundamental assumption of responsibility by the public sector for making such services available. Federal leadership will be critical to achieving this policy goal, but states also must attach high priority to prenatal care. At both levels, full support of the private sector and a greater commitment of public funds will be required.

Defining the Problem

If prenatal care is to become available to all pregnant women, the population of women receiving inadequate or no prenatal care must be defined, circumstances analyzed to reveal why these women receive insufficient care, and then ways found to remove the barriers. After reviewing numerous studies, the committee concluded that the major barriers to early receipt of prenatal care fall into the following six categories:

- financial constraints such as inadequate insurance or lack of Medicaid funds to purchase care;
- limited availability of maternity care providers, particularly providers willing to serve socially disadvantaged or high-risk pregnant women;
- insufficient prenatal services in some sites routinely used by high-risk populations, such as Community Health Centers, hospital outpatient clinics, and health departments;
- experiences, attitudes, and beliefs among women that make them disinclined to seek prenatal care;
- poor or absent transportation and child care services; and
- inadequate systems to recruit hard-to-reach women into care.

Financial Constraints

Numerous studies have shown that the availability of funds to cover the costs of prenatal care influences women's decisions about seeking such services. Efforts to eliminate financial barriers can take many forms, including making private health insurance more affordable for those without coverage who do not qualify for Medicaid, increasing support for public agencies that serve socioeconomically disadvantaged groups, and improving Medicaid coverage of prenatal care. The committee chose to focus on the Medicaid program, the largest public program financing prenatal care.

Medicaid Coverage The Medicaid program is a crucial element in reducing the occurrence of low birthweight, partly because of its capacity to reduce financial barriers to care generally and thereby to increase the proportion of low-income women seeking prenatal care. The program is also of great significance because of the characteristics of Medicaid recipients themselves. Medicaid-eligible pregnant women are typically poor and single and often have other risk factors as well, such as low weight for height and short intervals between pregnancies.

Medicaid prenatal benefits have also been shown in a few studies to be cost-effective. For example, in California, extending an improved set of Medicaid prenatal benefits to selected low-income women between 1979 and 1982 was found to be cost-effective because it was associated with savings in the costs of caring for low-weight infants.[16]

Support of the Medicaid program should be part of a comprehensive effort to reduce the nation's incidence of low birthweight. Changes in the program, a topic of considerable controversy in both Congress and state governments, should be dedicated to enrolling more eligible women in the program and to providing them with early and regular, high-quality prenatal care.

The Health Care Financing Administration (HCFA), in collaboration with the Division of Maternal and Child Health (DMCH), should establish a set of generous eligibility standards that maximize the possibility that poor women will qualify for Medicaid coverage and thus be able to obtain prenatal care. All Medicaid programs should be required to use such standards. In particular, eligibility standards should provide Medicaid coverage for pregnant, indigent women, regardless of their family composition or the employment status of the chief breadwinner in the family unit.

Further, Medicaid policies and reimbursement rates should reflect the high-risk nature of the Medicaid-eligible population. Program policies should not set a limit on the number of prenatal visits, because these women may require more frequent visits and more specialized care than low-risk women. DMCH should develop a model of prenatal care for use in publicly financed facilities; the model should be adopted by all Medicaid programs and be used to help structure reimubrsement policies. HCFA and appropriate state agencies should monitor adherence to this standard of care.

Maternity Care Providers

Assessing whether there are enough prenatal care providers is a complicated task, in part because several different groups are involved. Although obstetrician/gynecologists perform the majority of deliveries, family physicians and general practitioners perform almost 20 percent, and about 2 percent are managed by certified nurse-midwives. Moreover, a substantial amount of prenatal care (as distinct from deliveries) is provided by nurse-midwives, nurse practitioners, and public health nurses. The committee limited its investigation to two provider groups: obstetrician/gynecologists, because they offer the majority of maternity services, and a combined group consisting of certified nurse-midwives and obstetrical nurse practitioners, because they often care for socioeconomically disadvantaged women who are at elevated risk of low birthweight.

MARCH OF DIMES BIRTH DEFECTS FOUNDATION

Obstetrician/Gynecologists The number of private physicians providing prenatal care is inadequate in many parts of the country; of equal concern is the finding that the participation rate of obstetrician/gynecologists in Medicaid is relatively low and may be decreasing. This limits the number of private practitioners available to care for high-risk, low-income women.

To overcome this problem, the committee recommends that HCFA develop a series of demonstration/evaluation projects aimed at increasing the participation of obstetrician/gynecologists in Medicaid. Approaches should include reducing delays in reimbursement, increasing reimbursement rates, and increasing the number of prenatal visits reimbursed by Medicaid. The results of these projects should be vigorously disseminated to policy leaders.

To the extent that provider attitudes are found to impede Medicaid participation, local and national professional societies, including the American College of Obstetricians and Gynecologists, should undertake appropriate education to urge members to increase their Medicaid patient loads.

Nurse-Midwives and Obstetrical Nurse Practitioners Certified nurse-midwives and obstetrical nurse practitioners have been shown to be particularly effective in managing the care of pregnant women who are at high risk of low birthweight because of social and economic factors. These health care providers tend to relate to their patients in a nonauthoritarian manner and to emphasize education, support, and patient satisfaction. For example, several studies have shown that women served by nurse-midwives are more likely to keep appointments for prenatal care and to follow specified treatment regimens.[17]

The committee recommends that more reliance be placed on nurse-midwives and nurse practitioners to increase access to prenatal care for hard-to-reach, often high-risk groups. Maternity programs designed to serve high-risk mothers should increase their use of these providers; and state laws should be supportive of nurse-midwifery practice and of collaborations between physicians and nurse-midwives/nurse practitioners.

Insufficient Prenatal Care Services

Closely related to the issue of financial barriers and poor provider availability is the evidence that in some communities there is an inadequate number of organized facilities, particularly publicly financed ones, providing prenatal care to pregnant women who are unable or unwilling to use the private care system. Often these are women who traditionally have relied for care on facilities such as Community Health Centers, Maternity and Infant Care Projects, hospital outpatient departments, and health departments.

The importance of such facilities derives not only from their capacity to provide prenatal care to groups often outside of the private practice system, but also from the fact that there are populations that may be better served by public facilities offering a range of services than by physicians in private practice, who traditionally provide only medical care. The poor and the very young, as well as those not yet part of the mainstream culture, such as recent immigrants, may benefit especially from the outreach activities, social work, and nutritional counseling often provided in such settings.

The committee emphasizes the important function of these organized facilities, especially local health departments, in the effort to increase access to prenatal care. Health departments are singled out for detailed discussion in the main report because virtually every person in the United States lives in an area that is served by one, and because they are known to be active providers of prenatal care. In fact, national and state data indicate that reliance on health departments for maternity care has increased in the 1980s. To address the unmet needs for prenatal care, health departments should be given increased resources. Every community is different, however, and in some it may be more appropriate to provide additional support to Community Health Centers, Maternity and Infant Care Projects, hospital outpatient departments, or related settings.

Women's Experiences, Attitudes, and Beliefs

Access to prenatal care also is affected by a pregnant woman's perceptions of whether care is useful, supportive, and pleasant; by her general knowledge about prenatal care; and by her cultural values and beliefs. Some women may fail to seek prenatal care early because they lack information about the symptoms of pregnancy, the facilities that could assist them, or the importance of early care in averting the complications of pregnancy.

Other women may resist seeking prenatal care because of a language barrier, because of cultural beliefs that women should receive prenatal care only from other women, because of conflicts over the life-style changes required to maintain a healthy pregnancy (e.g., reducing smoking and heavy drinking), because of a desire to conceal the pregnancy, or because of previous unfortunate experiences with the health care system.

Two major strategies exist to overcome these barriers: general education about prenatal care and the development of a personal, caring environment in which to offer prenatal services, especially for socioeconomically disadvantaged women. The following attributes should be built into this environment: (1) respect for patients—their questions, problems, and time; (2) accessibility, including easy availability of telephone consultations; (3) continuity of care in the patient-provider relationship; (4) small size or decentralization to avoid the feeling of a large, impersonal bureaucracy; (5) responsiveness to the concerns that are most salient to women in early pregnancy, such as first trimester nausea and recognition of the need for emotional support and acceptance; (6) flexibility in the definition of services—encouraging providers to help women obtain nonmedical benefits; and (7) an understanding of cultural barriers.

Transportation and Child Care

Provision of transportation and child care services should be viewed as an integral part of prenatal care for low-income populations. Distance and difficulty in arranging babysitting for other children can lead women to put off seeking care unless an emergency occurs.

Increasing the Capacity for Outreach

Sometimes health care programs must do more than provide an open door. They must take the initiative to find and educate women about the importance of care. Two strategies employed to accomplish this task involve the use of outreach personnel and the forging of referral relationships with other service systems.

Outreach Personnel In the field of maternity services, outreach personnel generally perform one or more of the following tasks: identifying women requiring services and enrolling them in prenatal care, acting as an intermediary between these women and the provider system to ensure access to needed services, and establishing ties to other social services to address the nonmedical needs of pregnant women. The committee believes that the use of outreach workers is an effective way to improve access to care for difficult-to-reach populations. More research is needed, however, on the comparative advantages of different case-finding approaches, the costs of different outreach systems and their effectiveness, and the types of personnel best suited to various program goals and target groups.

Program Links Bringing hard-to-reach women into care also can be accomplished by forging strong referral relationships between prenatal services and other programs that are in touch with potential clients. The Special Supplemental Food Program for Women, Infants and Children (WIC) is a good example of a program that can lead to increased use of prenatal care. WIC prenatal participants must document their pregnancy status, which can lead to entry into a prenatal care network. Also, WIC sites are often located in neighborhood or county health centers, adjacent to prenatal care clinics, and WIC personnel actively encourage prenatal care during nutritional counseling.

A System of Accountability

The committee believes that although many different factors contribute to the problem of inadequate access to prenatal care, an underlying cause is the nation's patchwork, nonsystematic approach to making prenatal services available. Although numerous programs have been developed in the past to extend prenatal care to more women, no institution bears responsibility for ensuring that such services are available to those who need them. Without a structure of accountability, gaps in care will remain and efforts to expand prenatal services will continue to face major organizational and administrative difficulties. The committee recommends that federal and state governments take specific actions to assume such responsibility.

Government Actions

The federal government has long been on record as supporting prenatal care. For example, the 1980 Public Health Service report *Promoting Health/Preventing Disease: Objectives for the Nation* sets specific goals for reducing the number of women who receive inadequate prenatal care and for eliminating variations among groups in access to such services.[1] To meet or exceed these goals, the committee believes that the federal government should take the following specific actions:

- provide sufficient funds to state and local agencies to remove financial barriers to prenatal care (through channels such as the Maternal and Child Health Services Block Grants, Medicaid, health departments, Community Health Centers, and related systems);
- provide prompt, high-quality technical consultation to the states on clinical, administrative, and organizational problems that can impede the extension of prenatal services;
- define a model of prenatal services for use in public facilities providing maternity care; and
- fund demonstration and evaluation programs and support training and research in these areas.

States should take a complementary leadership role in extending prenatal services. This ~~could be accom~~plished by designating one organization—probably the state health department—as responsible for ensuring that prenatal services are available and accessible in every community. Through such an organization, each state should:

- assess unmet needs for prenatal care;
- serve as a broker to contract with private providers to fill gaps in services; and
- where necessary or preferable, provide prenatal services directly through facilities such as Community Health Centers and health department clinics.

In addition, the state should designate a local organization in each community to be the "residual guarantor" of services—to arrange for care for pregnant women who still remain outside of the prenatal care system. In many areas, the local health department would logically fill this role.

System Development

To begin the development of a functioning system of responsibility and accountability, the committee recommends that the Secretary of the Department of Health and Human Services convene a task force charged with defining a system for making prenatal services available to all pregnant women. Such a group must include representatives from Congress, the Public Health Services, HCFA, state governments and health authorities, maternity care providers, and consumers.

This task force should focus on four specific issues: (1) how to bring together the knowledge and general goals of maternal and child health programs with the "financial power" of the Medicaid program; (2) what can be learned from existing experience with the regionalization of perinatal services; (3) how to make state and national data systems more useful in assessing unmet need for prenatal services and, more generally, in monitoring the impact of various maternal and child health programs; and (4) how to ensure that prenatal care is financed adequately in times of cost containment, when preventive services often lose the competition for dollars.

IMPROVING THE CONTENT OF PRENATAL CARE

Participation in conventional prenatal care programs is associated with a reduced incidence of low birthweight. The committee believes, however, that enhancing the content of prenatal care could increase its contribution to the development of healthy infants. This section focuses on ways to strengthen prenatal care for all women, for women at elevated risk of preterm delivery, and for women at elevated risk of intrauterine growth retardation (IUGR). It also examines interventions closely associated with prenatal care that may help to reduce low birthweight, including smoking reduction programs, nutritional services, and stress alleviation approaches. Finally, recommendations are made for specific actions on content of care issues by the federal government and by professional societies representing the major maternity care providers.

Revisions In Care For All Pregnant Women

The committee has identified seven components of the prenatal care offered to all pregnant women that merit increased emphasis in the effort to improve pregnancy outcome generally and to prevent preterm delivery and IUGR in particular.

1. *Establishing Specific Goals* Greater efforts to organize prenatal care around explicit goals can help focus the attention of the patient on the purposes of the prenatal visits and engage her more in her own care. The process of establishing goals also can help the practitioner to structure appropriate interventions and to consider the combination of prenatal services that should be provided to each pregnant woman.

Defining the prevention of low birthweight as a major goal of prenatal care may require adjustments in clinical practice. For example, reducing the risk of prematurity or IUGR may require more emphasis on screening and counseling early in pregnancy. At present, prenatal care seems particularly oriented toward the prevention, detection, and treatment of problems that are manifested in the third trimester, particularly preeclampsia—thus the emphasis on blood pressure monitoring, screening for proteinuria, attention to possible edema, and increased frequency of prenatal visits toward the end of pregnancy. By contrast, the goal of preventing low birthweight requires additional attention during the first and second trimesters especially, to screening, diagnosis, and treatment, as early as possible, of conditions that predispose to preterm labor or IUGR, such as smoking and poor nutritional status. Many of the other aspects of prenatal care outlined below also merit attention early in pregnancy, such as the education topics.

2. *Risk Assessment* Prenatal care should include formal identification and evaluation of risk. This should be a dynamic process that begins at the first visit and is attentive to developing problems throughout pregnancy. Risk assessment can help to increase the flexibility of prenatal care, which is especially important for women in socially disadvantaged, high-risk groups; set packages of prenatal care often do not address their multiple problems. It can also help ensure that certain problems and risk factors are both detected and managed properly.

3. *Pregnancy Dating* Accurate dating of pregnancy is a cornerstone of good prenatal care. Without it, a clinician is less able to detect intrauterine growth retardation, to determine if labor is premature and the extent of the prematurity, or to avoid accidental prematurity following labor induction or an elective cesarean section.

The minimum data required to determine gestational age include the date of the last menstrual period, uterine size by pelvic exam during the first trimester, the time of quickening, the first time fetal heart tones are heard without amplification, and serial fundal height measurements after 20 weeks gestation.

4. *Ultrasound Imaging* A federal consensus development conference in 1984, sponsored jointly by the National Institutes of Health and the Food and Drug Administration, concluded that available data do not support routine ultrasound examination of all pregnancies, but identified almost 30 specific situations in which ultrasound is useful.[18] Among these are many indications relevant to the prevention of low birthweight. For example, when a uterine size/date discrepancy occurs, ultrasound can help establish gestational age.

5. *Detection and Management of Behavioral Risks* Prenatal care should include explicit attention to detecting and managing behavioral risks associated with low birthweight, especially smoking, nutritional inadequacies, and moderate-to-heavy alcohol use. In many settings, intervention options to overcome these problems are limited to physician or nurse counseling; in others, more formal programs are available on a referral basis.

6. *Prenatal Education* Health education for women who are pregnant or contemplating pregnancy should be expanded to include greater emphasis on behavioral risks in pregnancy, early signs and symptoms of pregnancy complications such as preterm labor, the role that prenatal care plays in improving the outcome of pregnancy, and related topics detailed in the main report.

Unfortunately, prenatal care education and counseling services are often inadequate, particularly for high-risk groups. Problems that may interfere with effective education of pregnant women include the short time typically scheduled for each prenatal visit, third-party reimbursement policies that pay for diagnostic and therapeutic procedures but ignore provider costs related to patient education, and lack of patient-education interests and skills on the part of many physicians. In many settings, nurses and related personnel may be more appropriate than physicians as providers of prenatal education.

Childbirth education classes have not been shown to have an impact on the incidence of low birthweight, probably because they usually begin in the third trimester of pregnancy and focus primarily on labor and delivery. To

increase their role in the prevention of low-weight births, these classes should begin earlier, place greater emphasis on the prenatal period and the risk factors described above, and make a greater effort to enroll women from lower socioeconomic groups.

7. Health Care System Factors Prenatal care providers should organize their programs to manage a wider variety of patient problems and risk factors than is usually possible in many prenatal care settings, particularly those in the private sector. Nutritional counseling, psychosocial counseling, strategies to modify smoking and other health-compromising behaviors, and related services should be provided directly or through a well-organized referral system. In addition, care should be provided in a comfortable atmosphere that underscores the importance of two-way communication—patients should receive full answers to questions about their pregnancies and should be encouraged to report relevant symptoms or problems.

Prenatal Care for Women at High Risk of Preterm Delivery

Information on the causes of low birthweight and the risk factors associated with it has led to the development of several innovative programs designed to prevent preterm delivery. Those described in the committee's report include the March of Dimes Birth Defects Foundation's Multicenter Prevention of Preterm Delivery Program, which originated at the University of California at San Francisco; the Los Angeles Prematurity Prevention Program, implemented in selected health centers that provide prenatal care for the Harbor-UCLA Medical Center; and the French Prematurity Prevention Program, which started in the early 1970s in Haguenau, France.

Preliminary data from these and other programs suggest several enrichments to basic prenatal care that may increase the likelihood of full-term births to women at high risk of preterm delivery:

- repeated risk assessments;
- expanded patient education; and
- increased provider education.

A woman who is at higher than average risk of preterm labor may benefit from repeated risk assessment as her pregnancy proceeds. In particular, women who have been defined as high risk because of a previous preterm birth or mid-pregnancy loss may require additional cervical assessments in the second half of pregnancy to check for early signs of dilatation or effacement. The committee is aware that the value and risks of repeated pelvic examinations in later pregnancy have not been clearly assessed.

Women at elevated risk of preterm delivery should also be offered special education about the factors associated with prematurity; the importance of early detection of the symptons of preterm labor, such as bleeding and periodic contractions; how to detect mild uterine contractions and how to differentiate normal contractions that often occur throughout pregnancy from those signaling early labor; and what to do when the signs and symptoms of preterm labor appear, including how to contact an obstetric care provider for consultation and help. Efforts to arrest preterm labor (such as use of tocolytic drugs, described below) hinge on its early detection and prompt management.

High-risk women also should be taught to identify and lessen events in their daily lives, such as physical stress and strenuous exercise, that can trigger uterine contractions, which in turn might lead to preterm labor. The research data supporting such advice are still tentative, but common sense and clinical judgment support such caution.

To complement patient education, provider education should include increased emphasis on the importance of being receptive to patients' complaints, some of which may indicate early signs of preterm labor; the uses of hospitalization for women with suspected preterm labor; and the various approaches available for arresting true preterm labor, such as tocolysis.

Tocolysis involves the use of specific drugs to inhibit preterm labor. The one such agent licensed for use in the United States is ritodrine hydrochloride. Widespread experience with tocolysis indicates that it can be beneficial in some individual cases of threatened preterm labor, but that the current generation of tocolytic drugs does not offer a long-term solution to the problem of prematurity. Some patients with preterm labor have medical or obstetric complications that caution against the use of tocolytic durgs, and in some situations delivery may be in the best interests of the mother or fetus. Important side effects can follow the use of tocolytic agents; rarely, complications may be life-threatening or even fatal.

The number of cases in which tocolytic intervention is successful would probably increase if patients and providers were better informed about the early signs and symptoms of preterm labor, the vital importance of early diagnosis, and the appropriate use of tocolytic drugs. Currently, only about one-third of pregnant patients who arrive at the hospital in preterm labor are suitable candidates for this form of therapy.

Prenatal Care for Women at High Risk of Intrauterine Growth Retardation

Many of the risk factors linked to preterm labor also are associated with IUGR; thus, some aspects of prenatal care that help to avoid one type of low birthweight also may help prevent the other. For example, careful risk assessment is as important for IUGR detection and treatment as it is for prevention of prematurity.

Unfortunately, the data available to suggest new clinical directions for

IUGR reduction are more limited than those for preterm delivery. The literature suggests simply that clinicians caring for pregnant women at elevated risk of IUGR should place extra emphasis on:

- reduction of behavioral risks such as smoking and alcohol use;
- nutritional surveillance and counseling—maternal preconception weight and weight gain during pregnancy, especially during the third trimester, are important determinants of birthweight; and
- early diagnosis and effective management of IUGR through accurate assessment of gestational age and fetal growth and maturity; ultrasonography can help in meeting such goals.

Programs Complementary to Prenatal Care

Because many of the risks associated with low birthweight have a behavioral basis, the committee examined selected interventions designed to reduce these risks, including smoking reduction strategies and nutritional intervention programs such as the Special Supplemental Food Program for Women, Infants and Children (WIC). The committee also evaluated stress and fatigue abatement approaches, although the evidence that these factors contribute to low birthweight is controversial. The interventions reviewed are not, strictly speaking, components of prenatal care, but they should be adjuncts to more routine prenatal services.

Smoking Reduction

The committee urges that efforts to help women stop or reduce smoking in pregnancy become a major concern of obstetric care providers. About 20 to 25 percent of women who smoke at the beginning of pregnancy quit on their own at some time during the 9 months. Controlled studies suggest that aggressive intervention programs can encourage up to 30 percent more to stop.[19]

Several themes derived from the literature on smoking intervention programs can aid practitioners in establishing effective strategies:

- counseling by a woman's physician or other primary clinician appears to be among the most effective intervention strategies for the pregnant smoker—group counseling appears to be less effective;
- social support appears to be a critical factor in changing smoking behavior—spouses or partners and other family members should be involved in intervention efforts;
- smoking reduction deserves high priority, but prenatal care providers should be reasonable in their expectations of the pregnant woman—she is probably being asked to make many changes in her life at a time when she may be unusually tired and anxious about a range of sexual and social changes associated with pregnancy and planning for a new baby;
- the mass media can play a motivating and reinforcing role in encouraging changes in smoking habits, but are probably insufficient as the sole approach. Cigarette labels that explicitly warn of the dangers of smoking during pregnancy should supplement other public information strategies; and

- research on smoking and pregnancy should receive high priority—important topics include how to structure interventions to reach specific high-risk groups, the motivations of women who do stop successfully during pregnancy, the role of social supports such as the spouse, and how to encourage continuation of nonsmoking behavior after delivery.

Nutritional Intervention: WIC

The data on nutrition and pregnancy outcome support the view that nutritional assessment and services should be major components of high-quality prenatal care, especially for women at elevated risk of IUGR. Accordingly, the committee examined the value of the Special Supplemental Food Program for Women, Infants and Children (WIC), which provides one of the principal data sets demonstrating the importance of nutrition to birthweight and represents a major public investment in the nutritional well-being of women and children. WIC is a three-part intervention program involving supplemental food, nutritional counseling, and close ties to prenatal services for nutritionally and financially high-risk women. Evaluation studies have shown that WIC participation is associated with improved pregnancy outcome, including increased birthweight among babies of participating women.[20, 21] The results also seem to indicate that longer periods of participation in the program during pregnancy (i.e., more than 6 months) are associated with greater weight gains.[21]

Based on such studies and others reviewed in the main report, the committee recommends that nutritional supplementation programs such as WIC be part of a comprehensive strategy to reduce the incidence of low birthweight among high-risk women and that such programs be closely linked to prenatal care.

Stress and Fatigue Reduction

A variety of approaches have been organized to reduce the amount of stress experienced by pregnant women. Some are concerned primarily with physical stress and fatigue, others more with psychosocial and emotional stress.

The prematurity prevention program in France, mentioned earlier, emphasizes reduction in physical stress for women with several risk factors (especially a history of preterm delivery, incompetent cervix, or a particularly strenuous life-style). These women may be advised to take a leave of absence from their jobs or get additional help at home.

The prematurity prevention program at the University of California at San Francisco addresses psychosocial and physical stresses simultaneously. Through a continuing education program, nurses are taught to recognize excessive fatigue or anxiety in their maternity patients and to help the women find solutions to their problems. High-risk patients also receive psychological support during pregnancy from a member of the "Preterm Labor Support Group," which consists of other women who have experienced preterm labor.

Another potentially important stress reducing intervention is maternity leave. The patchwork arrangement in this country of sick leave, disability leave, leave without pay, and other leave categories is not adequate to provide job security for pregnant women and new mothers who participate in the labor force. The committee recognizes that revision of maternity policies is a complicated issue, but suggests that more adequate maternity leave, particularly for certain high-risk women, could contribute to a reduction in low birthweight, among other benefits. At a minimum, labor unions, women's groups, and health professionals should explore this issue.

Encouraging Change in Prenatal Care

To encourage the provision of improved, more flexible prenatal services, particularly for women at high risk of low birthweight, the committee recommends four specific strategies:

- The professional societies that represent the principal maternity care providers should carefully review the suggestions made by the committee regarding prenatal care to determine whether their general guidelines for clinical practice should be revised and enriched accordingly.
- The Division of Maternal and Child Health (DMCH), in concert with both consumer and professional groups concerned with prenatal care, should define a model of services to be used in publicly financed facilities that provide care to pregnant women. This model should be updated and revised frequently to incorporate new knowledge and experience, and should not be used in a way that discourages research on improved approaches to prenatal care.
- The professional societies of the major maternity care providers should undertake programs to educate their members about the prenatal care issues highlighted by the committee. Suggestions for continuing education strategies are outlined in the complete report.
- Third-party reimbursement policies should reflect the common need of high-risk women for more intensive prenatal services, the importance of prenatal care being tailored to the needs of individual women and thus variable in its content, the value of counseling and education to reduce behavioral risks such as smoking, and the importance of ancillary services such as transportation to health care facilities. The federal model of prenatal care should emphasize these themes; and labor unions, businesses, and other organizations should incorporate them into negotiations over health insurance benefits.

Research Needs

Major progress in reducing low birthweight will require a far more sophisticated understanding of prenatal care content than now exists. Research on the content of prenatal care should be a high funding priority for foundations, public agencies, and institutions concerned with improving maternal and child health. This research should focus on three major areas: (1) description and analysis of the current composition of prenatal care, (2) assessment of the efficacy and safety of numerous individual components of prenatal care, and (3) evaluation of certain well-defined combinations of prenatal care interventions designed to meet the widely varied needs and risks among pregnant women.

MARCH OF DIMES BIRTH DEFECTS FOUNDATION

Current Prenatal Care

The Assistant Secretary for Health should take the lead in organizing activities to increase our knowledge of current prenatal care practices. Existing surveys conducted by the National Center for Health Statistics could include a special emphasis on prenatal care content. Consumer experience with prenatal care should be analyzed and the professional societies of the major maternity care providers should be consulted about ways to survey their members regarding various content issues. In some instances, direct studies of provider practices may be necessary.

Individual Components of Care

During its study, the committee compiled a long list of research topics involving specific interventions in prenatal care. They are listed in the full report and span both clinical topics and environmental/behavioral topics.

Combinations of Interventions

Both public and private institutions should support studies to assess the effectiveness of well-defined combinations of prenatal interventions in reducing low birthweight and improving infant health generally. In particular, these studies should assess the merits of different prenatal care strategies for women at elevated risk of prematurity or IUGR.

Too often, research on prenatal care has been oriented toward the broad question of whether it improves pregnancy outcome. The appropriate goal now is to identify the components and combinations of prenatal services that are effective in reducing specific risks for well-defined groups of women.

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A PUBLIC INFORMATION PROGRAM

The committee believes that a carefully designed, long-term public information program could contribute to the prevention of low birthweight. Such a program could help create a climate in which change and progress are possible and also convey specific types of information. Following a review of the basic elements that constitute a successful health information campaign, the committee sketched the broad outlines of a program directed at preventing low birthweight.

The plan incorporates two major objectives. The first is to call the problem of low birthweight to the public's attention and to reinforce its importance with the nation's leaders. The second is to help reduce low birthweight by conveying a set of ideas to the public about avoidance of important risk factors.

Public Awareness

Public awareness of the low birthweight problem is heightened by the release periodically of major reports by a variety of public and private organizations interested in maternal and child health. These reports, aimed at the nation's opinion leaders, are major resource documents for administrators, planners, legislators, and the news media.

Because reports compiled and disseminated by the federal government often receive particularly widespread attention, the committee recommends that the office of the Assistant Secretary for Health develop and publicize a report every 3 years on the nation's progress in reducing low birthweight. This report should explore trends in low birthweight and present new information on causes and risks for both prematurity and intrauterine growth retardation (IUGR). Successful programs to combat low birthweight should be described and research priorities outlined. The development, presentation, and dissemination of the report should be managed to reach as many concerned groups and individuals as possible. Additionally, the annual statistical profile of the nation's health developed by the National Center for Health Statistics, *Health: United States*, periodically should include a special supplement or profile on low birthweight and its prevention.

An Information Campaign

Defining the audience is a crucial step in any public information program. The committee considered carefully whether such a program on preventing low birthweight should focus on only a few target groups or on the population generally and again reviewed the literature on risk factors and causes of preterm labor and IUGR. Because many of the risk factors for low birthweight are widely distributed throughout the population, and because a substantial amount of low birthweight occurs among women judged to be at low risk, the committee concluded that the program should embrace a broad audience. Within this program, however, a special subset of messages should also be developed to reach three high-risk target groups: pregnant smokers, young teenagers, and socioeconomically disadvantaged women.

Overall, the public information initiative should have two themes: (1) planning for pregnancy and (2) adopting good health practices in the childbearing years, especially during pregnancy; in the full report, several more specific topics are suggested. Messages based on these themes should be developed and market tested to ensure their acceptability to a wide variety of audiences. Television, radio, and the print media should be used extensively, as should educational materials prepared for use in health care settings and schools. The committee urges that particular attention be given to the possibility of integrating health-related messages into the story lines of television shows; many high-risk women are members of groups that are known to watch daytime television, especially soap operas.

This public information program clearly needs an organizational home and strong leadership. The committee urges that the leadership responsibility be assumed by the Healthy Mothers, Healthy Babies Coalition, a 4-year-old consortium of voluntary, professional, and governmental groups. The coalition should establish a formal executive secretariat to provide stability and permanence. Both public and private funds should be provided to the coalition in amounts adequate to the task of leading a major public information campaign. Activities should include the production and distribution of high-quality, well-tested public information materials.

The committee emphasizes that this public information initiative should be only one element in a more comprehensive program to reduce low birthweight. Public messages stressing the importance of prenatal care must coincide with a commitment to making prenatal care more accessible, just as messages to decrease smoking in pregnancy must be reinforced and elaborated in individual office and clinic settings. To be successful, the information campaign must carry scientifically accurate messages and receive full social and political support.

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